

# THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

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## Educational News and Editorial Comment

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### EDUCATION IN A TIME OF CRISIS

AT TIMES like the present few people can preserve a cloistered aloofness toward the situation in Europe. In spite of censorship, the newspapers and the radio succeed in keeping the public reasonably well informed on political and military matters. News of the educational situation is less readily accessible, and hence a brief look at some comments pertaining to the effect of the present crisis on education in Europe and the United States may be of interest.

*Educational problems of England during the war* Even a hasty glance through a few issues of the *Times Educational Supplement* of London reveals that educational problems arising from the war are of serious concern to the British people. The evacuation of many children to rural areas and the interruption by air-raid warnings of the work of those who have remained in the cities certainly lead to abnormal conditions. Teachers in the United States who find their work difficult may consider themselves fortunate that, as yet, they have not had to carry on in air-raid shelters. The following quotation from a short article by a correspondent of the *Times* is noteworthy for advocating a progressive point of view under what must be rather trying circumstances.

The writer of a recent article in the *Times Educational Supplement* pointed out how, after a period of widespread experiment during the early months of the war with substitutes for organized schooling, many schools relapsed into their traditional conservative routine as soon as their buildings became available again. Now, however, in districts where the intensification of aerial warfare has made "alert" periods frequent, everything is again in a state of flux. . . .

Teachers began to ask themselves whether a greater variety of worth-while occupations might not be carried on in the shelters. Spelling, mental arithmetic, story-telling and reading, speech-training and recitation, with knitting for girls, were among the first activities to suggest themselves. . . .

It should not be necessary to trust to impromptu activities in the shelters. Sometimes it may be wise to finish an explanation or discussion begun in the classroom and interrupted by the siren; but generally activities here should, though related to classroom work, be planned as self-contained units. Each teacher's preparation should be twofold—of work to be done in the classroom and other work to be done in the shelters. The two must be different: restrictions of space and equipment, the frequent separation of boys and girls, and the mixing of classes in the shelters make conditions there very different from those of the classroom. In working out the program for the shelters it would be well to give consideration to the possibilities of the portable gramophone, or portable wireless set. It should not be difficult to develop much more than is usual the reading of poetry to children; traditionally, the poetry lesson is far too often equated to "recitation." With older children interchange of teachers among the shelters, at intervals, can give stimulus and variety both to teachers and taught. . . .

History, geography, science in its various branches, and the arts and crafts present knotty problems. It is more than ever difficult to fit them into the available time. The time table has always tended to consist of far too many bits and pieces with only the loosest connection between them; now that the sirens cut further divisions across it, there is a very real danger that the day's program will disintegrate into numerous snippets of work not merely unfinished but hardly begun. It seems all the more urgent for teachers to consider afresh the possibilities of the "project" method—of building up much of the work round "centers of interest." Infant-school teachers have long realized the value of such activities, but junior and senior school teachers have been slower to understand their potentialities. A project, by giving unity to many varied activities of the children, may do much to counteract the disintegrating effect of frequent interruptions by air raids.

The difficulty of giving formal instructional lessons of 30-40 minutes' duration is making many teachers think out a fresh technique. Just as interest has been aroused, at the climax of the lesson, or at the moment when the teacher is about to test the children's grasp of the new facts and ideas he has been trying to convey, the siren may go—and the spell is broken and the shape of the

lesson spoiled. But good may come out of evil: for, with the re-emphasized need for individual work in the three R's and for project work in other fields, the schools may come to lay stress upon the children's learning rather than upon the teachers' instruction. Further experience will help us to modify our plans, but (let it be said again) planning there must be. We must not drift, aimless and purposeless. That would be to do what our enemies would have us do: it would be tantamount to surrender. We must keep before us the thought that after the winning of the war will come the winning of the peace—a work that we shall hand over to the generation now in the schools. In preparing them for that high task no difficulties should deter us, no effort be counted too great.

The reader might ask himself what would be his first choice of a poem to read to a group of children in a shelter during an air raid. Lest this thought appear too somber, however, it should be noted that many of the articles, letters, and reviews appearing in the *Times Educational Supplement* make no mention of the war situation. By a prudent use of scissors it would be possible to separate each issue into two parts—one representing the normal course of education in Great Britain, the other dealing with war-time educational problems.

The views of the government on the importance of continuing educational work are doubtless reflected in the following letter of Lord Halifax, recently appointed ambassador to the United States, to the vice-chancellor of Oxford University. At the time of writing, Lord Halifax was the foreign minister of Great Britain and chancellor of the University.

I should like to take this opportunity of letting you know how highly I value the educational work which this University is doing at this present crisis of our country's affairs. To realize its importance one has only to think of the situation which would arise if it were not being done. Young men on leaving a public or secondary school would then be faced by an awkward gap before the time when the country would call on their services in the Forces or elsewhere.

The opportunity which it gives for education in its widest sense by the pursuit of sound knowledge in an atmosphere of corporate life, and among all the traditions which we so rightly prize, is the best possible preparation for the time which most of them will spend in H.M. Forces and for the further services which in later years they will render to their country and to mankind. In framing the National Service Act, H.M. Government have always had in view the need for work such as the University is doing, and that need has certainly not been made less urgent by the circumstances of the war.

*The educational system of Germany in wartime* Dr. Gerhard Krause, of the German Ministry of Education, in an article published in the *Internationale Zeitschrift für Erziehung* (*International Education Review*), provides some material for comparison with the situation in this country and in England. The following is a free translation of excerpts from the article.

At the beginning of the Polish campaign the German schools were closed. A short time later the minister of education issued a decree that instruction should be taken up again. The German government was convinced that thorough education and training of the younger generation were necessary for the mastering of the future tasks during the coming peace.

In the effort to continue school instruction the German government encountered many difficulties. Since German children had not been evacuated to the country in such great numbers as had English children, there was no need for additional instructors in rural areas. However, difficulties arose from the fact that school buildings and gymnasiums had been taken for military purposes. Schools in these areas had to be consolidated. At present only a few schools are supposed to be used by the army, but one-third of the gymnasiums are still used for the storage of grain. During the winter many cities had to close their schools on account of lack of coal.

The lack of teachers was, of course, most serious. It was possible to fill the teaching positions in the elementary schools through re-employment of retired civil-service employees, through use of city teachers in rural districts, and through employment of unusual types of teachers (such as student assistants, kindergarten teachers, and women gymnastics teachers). In addition, the school administration started to train school helpers chosen from successful high-school graduates (nineteen to thirty years of age). After three months of free instruction in educational methods at a teachers' college, these helpers start teaching in the schools. In order to become regular elementary-school teachers, they must teach for two years and then stay another year at a teachers' college and pass a final examination.

Another difficulty arose from the attitude that in times like these the school bench is not the right place for a good German boy. "*Welcher deutsche Junge will denn in dieser grossen Zeit in die Schule gehen?*" [Which German boy wants to go to school during these unusual times?] was the question that was answered by Minister of Education Rust in his speech to the German school youth: Every German boy who understands the aims of the Führer wants to go to school. And the work of the Führer points toward great tasks during the coming peace. It is certainly difficult for youth to make an effort toward aims which lie so far in the future, but the minister advised his listeners to be content with it. "You will become men capable of accomplishing everything, not only by having sincere sympathy with the great events of the present or through additional work



outside of school, but through constant and systematic study and through steady increase of your knowledge and accomplishments."

Although there was a shift in the curriculum toward a science program and preparation for practical activities, the government warned that there must be an *ideale* [ideological(?)] education and a cultural training of the coming generation. In order to continue instruction in high schools, the curriculum had to be more unified. The rigid division between the mathematical and the language curriculums was abolished and continued only in small discussion groups. The technical schools stressed the needs of the war industries in their instruction. Instruction in building model airplanes was included in the curriculum.

In the universities scientific research in the departments of technology, physics, and chemistry was stressed. There was also a task ahead for the humanities and the social-science divisions. These divisions took over the research for the propaganda within and outside the state. They are also working for the preparation of the new European order after the war. They play an important role through committees of scientists and art experts who advise the government which German libraries and other German cultural documents should be taken back from the conquered foreign countries. In addition, not only for the needs of the war but also for the needs of the future, the study of foreign cultures, economy, politics, and languages is emphasized.

Incidentally, Dr. Krause is doubtless an expert on propaganda, for the back cover of the journal includes an advertisement for his book *Die Britische Auslandspropaganda: Organisation, Methoden, Inhalt, 1914-1940*. It is interesting to note also that the same issue of the journal contains a very informative article concerning the camps of our Civilian Conservation Corps.

*Education as a patriotic duty of American youth* A statement by President Roosevelt on the importance of continued schooling for young people is reprinted here for the sake of comparison with the preceding ideas on the same subject.

Reports have reached me that some young people who had planned to enter college this fall, as well as a number of those who attended college last year, are intending to interrupt their education at this time because they feel that it is more patriotic to work in a shipyard, or to enlist in the Army or Navy, than it is to attend college. Such a decision would be unfortunate.

We must have well-educated and intelligent citizens who have sound judgment in dealing with the difficult problems of today. We must also have scientists, engineers, economists, and other people with specialized knowledge, to plan and to build for national defense as well as for social and economic progress. Young people should be advised that it is their patriotic duty to continue

the normal course of their education, unless and until they are called, so that they will be well prepared for greatest usefulness to their country. They will be promptly notified if they are needed for other patriotic services.

Each reader will doubtless give his own interpretation to the similarity in views expressed by Lord Halifax, Herr Rust, and the President. To the writer it means neither more nor less than that responsible leaders of three great nations believe that education is important even during times of crisis, but it does not mean that their conceptions of the basic purposes of education in relation to a philosophy of government are at all the same.

#### WHAT DOES HIGH-SCHOOL GRADUATION MEAN?

**D**URING the autumn the major emphasis in educational journals was placed on the relation of education to national defense and the preservation of democracy. Nevertheless the perennial problems of providing appropriate educational experiences for gifted and for backward children continued to receive attention, and several articles discussed the prevention of failures.

The doctrine that the number of failures should be reduced to a minimum (which in some cases is taken to be zero) is not difficult to defend on the basis of current educational theory. Even in educational circles, however, there are many who seem to lack an understanding of the assumptions on which the doctrine is based. Instructors in the academic departments of colleges and universities complain of the poor preparation of some of the students who come to them, and these professors are inclined to put much of the blame on the "no-failure" policy of secondary schools. In the words of one university professor, "Graduation from high school has lost its meaning." Many high-school teachers and intelligent lay citizens have a similar point of view.

In an article on "What Should Graduation from the Secondary School Mean?" published in the *Bulletin of the National Association of Secondary-School Principals*, Professor Will French, of Teachers College, Columbia University, writes, "Graduation from the secondary school has never meant anything definite and specific for the school men and women of any generation as a whole." Part of the literature relating to this problem, he says, is of the narrative type

and describes the practices in use in a given city or state, and another part is concerned with the convictions of the writers. "Both types of literature illustrate or argue for many different types of practice or different bases for graduation. We therefore still seek for a set of guiding principles by which to evaluate our graduation practices and answer the question of who should be graduated." He goes on to list and elaborate upon ten such principles. This list seems to be one of the most concise and rational summaries of educational views on this problem now available, and it is worth quoting at some length:

*First:* The most basic point . . . is that America is committed to universal secondary education. . . .

*Second:* Universal education at any level presumes that an appropriate educational opportunity is to be provided for each student. . . .

*Third:* An educational opportunity is appropriate for any youth when it provides opportunity for him to make the growth and development which will help him to live better in his environment and to improve this environment. . . .

*Fourth:* If the educational opportunity is an appropriate one there is no reason inherent in it why the youth should not succeed with it and it with him. Factors outside of the school may of course prevent success, but genuine failure is reduced to the lowest point within the potentialities of the school when the educational opportunity is appropriate.

*Fifth:* As the youth succeeds with this educational program he approaches a point of diminishing returns where further efforts by him and the school return smaller and smaller results. Individual differences in capacity, limits in human ability to teach, and the nature of the educational program all argue that in the end a point of diminishing returns will be reached. As this point is reached by any youth, the possibilities of formal universal education are approximately attained.

*Sixth:* When the youth and the school have joined in a co-operative educational effort until it is obvious that the point of diminishing returns has been approximated, the point at which graduation should occur has been reached. . . .

*Seventh:* When a youth will not put forth a good effort, an appropriate educational opportunity being offered, he should not be graduated. . . . Note that the important phrase "an appropriate educational opportunity being offered" is imbedded in this proposition.

*Eighth:* Full-time educational opportunity through the granting of aid to the economically needy ought to be effectively available to each willing youth until graduation. . . .

*Ninth:* When the educational opportunity really available locally to willing youth is at best only partly appropriate to some of them, the school should graduate those who do the best they can with what is offered.

*Tenth:* Graduation should indicate basically that education has done what it can to qualify a youth to enter into the initial activities of young adulthood.

In the *Clearing House* for November, 1940, District Superintendent John W. Bell comments as follows on the philosophy concerning failures in the Chicago public schools:

1. Boys and girls of high-school age have a right to be in high school. Not only have they a right to be there, but high-school teachers and administrators have an obligation to retain them under supervision until they actually secure employment or are graduated.

2. The high schools must adjust curriculums, methods, and attitudes in such a manner that each individual pupil will actually get the kind of educational program with which he can and will succeed.

But it is one thing for a group to adopt a platform and quite another thing for them actually to adhere to it. Individual Chicago high schools differ somewhat in the degrees to which they adhere to their theory, and individual teachers within departments differ extremely in the degrees to which they abide by the doctrine.

In a recent discussion of the mathematics curriculum in the Chicago high schools, it was disclosed that the failure rate in mathematics had moved into first place in rank order by departments, displacing the foreign languages, which had previously held that dubious honor. Some of the mathematics teachers accused the foreign-language teachers of merely relaxing standards. In another connection a local newspaper took up the refrain with respect to the school system as a whole. Whether or not these charges are true, they are fairly typical of what happens when a policy of failure prevention is adopted. As is so often the case, the trouble is largely due to a misplaced emphasis and a willingness on the part of some to becloud the issue.

It is clear from the quotations given above that, in theory, a reduction in the number of failures recorded should be a *result* of appropriate adjustments in the curriculum and the methods of the school, combined with a functional program of guidance. There is no need, and little justification, for campaigns to reduce failures as such, but there is great need, and much justification, for continuing efforts to produce the sort of school in which practically every pupil succeeds with worth-while educational experiences.

In this connection, mention of the experience of Annie Hicks, teacher of an emergency school for children of migratory workers, is pertinent. In an article on "Present Trends in Emergency Schools" appearing in the *Sierra Educational News*, she writes:

As far as grading is concerned, it is a case of individual instruction. For instance, in one school I had quite a large sixth grade made up of fifteen-year-old girls and boys, but most of them did not know the fourth-grade work. Consequently I had to go back and teach most of them fourth-grade work and then lead up as quickly as possible to what they should know.

In many cases, they were so happy to do something well, that they became very enthusiastic and worked very hard to get ahead in their lessons after that. One boy said that he just could not learn to spell, so we started out with three words. When he received his first 100 per cent, he was so delighted that he worked for all he was worth, and in two months he kept up with his class in spelling. He was the proudest boy I ever saw. He said he had never gotten 100 per cent before in his life.

#### WORKSHOPS AT VARIOUS LEVELS FOR THE SOLUTION OF EDUCATIONAL PROBLEMS

SEVEN workshops are planned by the University of Chicago as part of its summer-quarter program. For teachers and administrators in secondary schools who are attacking problems of curriculum construction and the development of evaluation and guidance programs, a workshop will be held on the campus of the University of Chicago. This workshop will continue through both terms of the summer quarter in order that participants may work in either term or in both terms.

In co-operation with the National Youth Administration, a special workshop will be conducted at the University of Chicago for high-school staff members and officers of the N.Y.A. who wish (1) to develop work projects that will help promote the educational objectives of the high school and (2) to plan related education for pupils needing work experience.

Increasingly, secondary-school teachers and guidance workers have been drawing on recent findings in the study of adolescent development for suggestions and criteria in the development of better curriculums for youth and more effective programs of guidance. Hence, the Committee on Human Development of the University of Chicago and the Division on Child Development and Teacher Personnel of the American Council on Education are providing their materials for use in a special workshop on child development and education. Participants in this workshop will include persons from public schools and from teacher-education institutions who are in-

terested in familiarizing themselves with recent research studies in child development and their implications for education.

In co-operation with the W. K. Kellogg Foundation and the University of Michigan, a special workshop for secondary-school teachers in rural areas is being planned. It is anticipated that this workshop will be held in one of the schools in the "Kellogg area" in southwestern Michigan. This workshop will provide special opportunities for teachers to work out programs that will utilize the community resources of rural areas and small towns.

The University will also conduct a workshop for college faculty members, one for elementary-school staffs, and an elementary-school workshop in the "Kellogg area."

#### UNRAVELING REASONING AND THE EMOTIONS

A GREAT many persons believe that, in any struggle between the emotions and reason, emotions are sure to win. It seems more likely, however, that the decision in any particular instance depends on the relative strength of the opposing forces. At any rate the schools continue their efforts to teach people to reason logically. Teachers of mathematics have long considered this objective within their domain. More recently teachers of the social studies have actively taken up the struggle in connection with the analysis of propaganda. In the *Educational Forum* Elmo A. Robinson discusses "Reason in an Age of Propaganda." The thesis of the author is that the processes identified by Dewey in his analysis of problem-solving should be more intensively employed in co-operative thinking by deliberative groups. He goes on to say:

But if this activity is to be effective, the group must itself, individually and collectively, recognize the need for it. There must be a felt need, a commitment, a will, which moves each member to contribute his ideas to the common pool, there to permit them to undergo criticism, modification, combination, and amalgamation. Each must have a genuine desire to stimulate the minds of others by doing his own best thinking, and to be in turn stimulated to revise that thinking by those minds which he has himself aroused. There must be a will in the direction of an agreement imposed by a common reason, operating with objectively determined facts. There is a genuine need for an extension of this will among committees and conventions of all sorts. Such a will to group-thinking will rest upon a faith which, without ignoring the emotional and irra-

tional elements of human conduct, still believes in the existence of thoughtful elements in behavior and in the capacity of the common man to respond to the appeal to reason.

The use of the word "will" in this quotation reminds one of faculty psychology, and the passage as a whole provides interesting material for semantic analysis. The closing sentence is, however, a clear statement of the position of the protagonists of reason.

The more usual emphasis on the development of the individual is found in "A Unit on Propaganda Analysis" by Fenton A. Gage, appearing in *Social Education*. Mr. Gage states his assumptions as follows:

It is assumed first that a psychological approach which enables the pupil to understand the logical steps involved in problem-solving will contribute to more efficient and more general application of the scientific method in coping with all problems. Second, it is held that knowledge of the general techniques employed in propaganda and the formation of public opinion will add to critical judgment since the methods employed in the numerous phases of propaganda are basically the same. Obviously, much of the following material would be valueless to the average pupil if he were merely required to memorize it. It consists of concepts which can be given meaning only as developed inductively from numerous examples and illustrations. This development is left to the ingenuity of the teacher. Once the pupil has attained an understanding of these basic processes of thought and techniques of molding thought, he should be better equipped to apply this knowledge to new situations which confront him.

The general objective of this unit, then, is to develop logical processes of thought as well as critical-mindedness on the part of the pupil.

Both of these authors partially side-step the old problem of transfer of training, since they discuss reasoning in close relation with the sort of situation in which it is to be applied.

With the teachers of mathematics the problem is more acute. Recently there has been a greatly increased awareness that instruction in mathematics may be related to social problems. This relation is discussed at length in Dr. Breslich's article in this number of the *School Review*, as well as in the recent reports to which Dr. Breslich refers. In this article he has not chosen to mention one of the ways in which mathematical instruction is being more socially oriented. In a number of schools, teachers of mathematics are introducing many "life-situations" to give pupils opportunity to ap-



ply, in nonmathematical situations, principles of reasoning taught chiefly in connection with geometry. An analysis of propaganda is often included in such work. Several studies have shown that the ability of pupils to deal with nonmathematical reasoning situations may be greatly improved, and textbooks with more and more material of this sort are beginning to appear.

Some of the more immediately pressing problems relating to instruction of this kind are being rapidly clarified and solved. There is, however, at least one fundamental question outstanding: Just what is the role of the geometry in developing reasoning abilities? A wealth of discussion appears on this subject in the literature, and many self-critical teachers are convinced that the training in geometry plays a basic role. Perhaps, however, the ability to reason in certain types of life-situations is improved as much or more by the study of propaganda analysis taught apart from geometry as it is by propaganda analysis taught with geometry. If this hypothesis turns out to be correct, it will not necessarily prove to be fatal to the trend in mathematical education under discussion, but it will call for further analysis of the common and the differential provinces of the several subject fields.

#### DEVELOPMENT OF HOBBIES AS AN OBJECTIVE IN SCIENCE

CONNECTIONS between the study of science and the hobby of stamp-collecting would, at first glance, appear to be remote, but Dorothy F. Osburn, teacher of science in Westlake Junior High School at Oakland, California, has found that stamps display a wide variety of science subjects. In an article entitled "Science and Stamps," which appears in the *Sierra Educational News*, she reports that pictures of plants, of animals, of inventions, of scenic wonders, and the portraits of scientists are included in the classifications that she uses for stimulating interest in science. In a contest sponsored by a science class, sixteen pupils exhibited stamps related to scientific subjects. The members of the class utilized the school library to inform themselves about the subjects portrayed on some of the stamps and the reasons why they were worthy of being honored in this way. Quite apart from its value in teaching, Miss Osburn found

that the collection of stamps of scientific interest provided her with a fascinating hobby.

This report is worthy of comment because it represents a conscious attempt to relate a school subject to a leisure-time activity. Since the publication in 1918 of *Cardinal Principles of Secondary Education*, almost every subject field has included among its objectives some mention of the "worthy use of leisure." Although modern science courses in the secondary schools probably give far more attention to this objective than was customary a generation ago, in a great many cases the aim has remained a "paper objective"—it sounds well but is not to be taken very seriously. It is interesting to speculate on the extent to which this situation is due to a belief on the part of secondary-school teachers that the objective would not be warmly accepted by college instructors. Some evidence on this point is available.

In an unpublished study sponsored by the American Association for the Advancement of Science, nearly a thousand teachers of college science responded to a questionnaire on various aspects of science-teaching. One set of questions dealt with the possible contributions of the study of several scientific fields to the education of non-specializing students. The instructors were asked to react to the objective, "to develop certain hobbies representing the interests of students." About three-fourths of the college and university teachers who responded rated this objective either as "very important" or as "of some importance." The remaining one-fourth thought that their courses in science should not attempt to make this contribution. The geologists rated the objective most favorably; 46 per cent of them considered it "very important," and 45 per cent rated it as "of some importance." These data indicate that a majority of college instructors in science are favorably inclined toward the objective of developing hobbies. They would almost certainly wish to impose the restriction that other objectives should receive adequate attention, but, generally speaking, it would seem that the secondary schools could continue to encourage the development of scientific hobbies without fear of criticism from the colleges.

MAURICE L. HARTUNG

## EVIDENCE OF THE USEFULNESS OF THE "SCHOOL REVIEW"

IT HAS long been a matter of pride at the University of Chicago, and particularly in the Department of Education, that the *School Review* is held in high esteem both by its regular readers and by recognized leaders in the field that it serves. The evidence of this esteem has often been presented to the officers of the University in the voluntary testimonials and commentaries of the many persons who have found this journal professionally stimulating and useful. In addition to such testimonials, a few objective evaluations of the *School Review* have been made. Two such ratings which were highly complimentary to the *Review* were reported in the editorial section of the June, 1940, issue.

The most comprehensive analysis of the contributions of educational periodicals yet reported is summarized in *School and Society* for November 16, 1940. The authors are William D. Wilkins, of Northwestern University, and William H. Anderson, Jr., of the Denver public schools. Adopting techniques which were declared to "have been used successfully in seeking the most useful journals in other sciences," these investigators checked the citations appearing during significant periods of time in six selective bibliographies, each widely recognized as an authoritative source of reference in the field of education. These include all numbers of the *Review of Educational Research* for the years 1936-39, inclusive; the *Journal of Educational Research* for the same period; the list of "Sixty Educational Books of 1938," published in the April, 1939, issue of the *Journal of the National Education Association*; and three abstracting compendiums, *Education Abstracts*, *Loyola Educational Digest*, and *Education Digest*, each for the five-year period ending in 1939. The frequency with which different educational periodicals are cited in these works of reference is regarded by the investigators as a measure of their relative usefulness in the field.

In the list of digests of articles which appeared in the three abstracting compendiums over a five-year period, the *School Review* ranks second, being surpassed only by *School and Society*, which is published weekly throughout the year. The *Review* ranks third in the number of citations noted in the list of sixty best books for 1938, is accorded fourth place among the periodicals cited most frequently

in the *Journal of Educational Research*, and is in tenth place in the citations appearing in the *Review of Educational Research* despite the fact that it carries articles pertaining to secondary education only. Among the thirty-two periodicals credited with at least a hundred citations each in the composite list covering the six reference works mentioned, the *School Review* is fourth in rank. Finally, a selective index of usefulness is designated by Wilkins and Anderson as a means of denoting the relative position of the comparatively few periodicals which are found among the highest twenty-five in all four of the lists compiled. This final index is the average rank of the journal in the four lists. In this rating the *School Review* is tied for third place with the *Elementary School Journal*, also published by the Department of Education of the University of Chicago. Two journals tied for first place. One of these is *School and Society*, with fifty-two issues a year, and the other is the *Journal of Educational Research*, itself one of the sources of the citations from which these ratings are derived.

The Editorial Committee regards this appraisal of the usefulness of the *School Review* as a worthy tribute to the services of its former directors, particularly Professor Charles H. Judd, who guided its course from 1909 to 1930, and Professor Leonard V. Koos, who served as editor from September, 1930, to November, 1940. The present-day readers of the *School Review* will appreciate this recognition of the valuable services of these educators in this capacity as they appreciate the other notable contributions of these two men to the development of secondary education in the United States. The editors, on the other hand, have always attributed the success of the *School Review* to the interest and enterprise of those members of the profession who contributed the articles that have given this journal its enviable position of leadership among educational periodicals.

#### THE UNIVERSITY OF CHICAGO LUNCHEON

THE University of Chicago Luncheon will be held at 12:15 P.M., Wednesday, February 26, 1941, in the Benjamin West Room at Haddon Hall, Atlantic City, New Jersey. Professor Ralph W. Tyler will act as toastmaster. Professor William C. Reavis will tell of the important work of the Field Service Committee of the De-

partment of Education, and Professor Stephen M. Corey will speak on "The Laboratory School Idea." Tickets are \$1.50 and can be purchased from Professor Robert C. Woellner, University of Chicago.

#### WHO'S WHO FOR FEBRUARY

*Writer of the news notes and authors of articles in the current number* MAURICE L. HARTUNG, assistant professor of the teaching of mathematics and teacher in the Laboratory Schools at the University of Chicago. BYRON S. HOLLINSHEAD, president of Scranton-Keystone Junior College, La Plume, Pennsylvania. E. R. BRESLICH, associate professor emeritus of the teaching of mathematics at the University of Chicago. JOHN A. KINEMAN, associate professor of sociology at Illinois State Normal University, Normal, Illinois. RUSSELL S. SHELTON, teacher and former school principal in Pike County, Illinois. DONALD E. SUPER, assistant professor of educational psychology at Clark University. ROBERT D. WRIGHT, dean of boys at Lancaster High School, Lancaster, New York. DORA V. SMITH, professor of education at the University of Minnesota. ROBERT E. KEOHANE, instructor in the social sciences and adviser in the Four Year College at the University of Chicago. EDITH P. PARKER, associate professor of the teaching of geography at the University of Chicago. WILBUR L. BEAUCHAMP, assistant professor of the teaching of science at the University of Chicago. GEORGE E. HAWKINS, teacher in the Laboratory Schools at the University of Chicago. FRANCIS F. POWERS, dean of the College of Education at the University of Washington.

*The writers of reviews in the current number* J. M. MCCALLISTER, director of personnel service at Herzl Junior College, Chicago, Illinois. ROBERT C. WOELLNER, associate professor of education and executive secretary of the Board of Vocational Guidance and Placement at the University of Chicago. ELSIE MAY SMITHIES, assistant principal of the University High School of the University of Chicago. ANN BREWINGTON, assistant professor of business education at the University of Chicago. NELSON B. HENRY, associate professor of education at the University of Chicago. JOHN WILLIAM SIMPSON, instructor in economics at Steubenville High School, Steubenville, Ohio.

## SOME ESSENTIALS OF TERMINAL OCCUPATIONAL EDUCATION AT THE JUNIOR-COLLEGE LEVEL

BYRON S. HOLLINSHEAD

Scranton-Keystone Junior College, La Plume, Pennsylvania

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### NEED FOR ADOPTING A PATTERN FOR TERMINAL EDUCATION

FROM February to July, 1940, the writer, as consultant for the General Education Board, had the rare opportunity of visiting fifty-eight junior colleges, a number of projects carried on by the National Youth Administration, some high schools, a few trade schools, and a half-dozen universities. These visits were made for the purpose of studying terminal education. Except in a few institutions the work now being offered in terminal courses at the junior-college level is not impressive. Junior colleges have not felt free to offer work suited to the best interests and abilities of their students because they have felt restricted by the necessity of paralleling the first two years of the standard colleges. Further, since two-year terminal post-high-school education represents a comparatively new field, the pattern which should be followed has not been at all clear.

This article suggests a tentative pattern of the main elements of terminal occupational work at the junior-college level. To a large degree the general problems encountered in offering terminal work are similar in all communities. It seems doubtful, therefore, that any terminal program would be successful unless it were built on a number of the common elements here outlined.

Of the two types of terminal education—general<sup>1</sup> and occupational—this article is largely concerned with the latter, although some of the techniques described would be just as applicable to the general terminal course. (Training the student for civic and social competence on a functional basis is an equally essential responsibility of junior-college terminal education.)

<sup>1</sup> See the writer's article on "Terminal General Education at the Junior College Level," *Association of American Colleges Bulletin*, XXVI (December, 1940), 570-77.

## DETERMINING LOCAL NEEDS

First, the community served by the college must be surveyed to determine the needs for terminal courses. The current status of high-school graduates should be studied for the purpose of determining their needs. A survey of occupational possibilities should also be made to indicate what kinds of terminal courses should be offered. When the survey is made, civic organizations, such as the chamber of commerce, service organizations, the retail merchants' association, and local manufacturers' associations, should be asked to assist in determining employment possibilities.

Local or state employment agencies can frequently give important information about employment shortages. If such shortages are temporary in nature, this information is important in the development of terminal courses. Personnel managers of large concerns should be interviewed with regard to their needs. The requirements of small industries should be tabulated so that the best possible occupational information in these fields is available. In order that occupational training may keep pace with current needs, techniques should be devised to keep occupational information up to date. Indeed, a community occupational survey must be a continuous affair.

## DETERMINING DESIRABLE TYPES OF OCCUPATIONAL COURSES

Second, terminal courses must be devised in consultation with successful practitioner groups in the community. What do they expect of an employee? What kind of employee is especially valuable? Meetings between community groups and the junior-college faculty are advantageous in determining the curriculum content of occupational courses. In too many cases occupational training becomes academic unless there is a constant interchange between industry and the instructor. In general it may be a much more valuable experience for an instructor to work in industry during the summer months than for him to attend summer sessions at a university.

Studies of the student body will give some indication of the types of semi-professional courses best suited to student interests and abilities, and such studies should be given consideration when



courses are being devised. In addition, consideration should be given to the advisability of hiring instructors directly from industry instead of from graduate schools. It is something of a problem to train instructors from industries to teach; it may be even more of a problem to get the product of the usual graduate training course to understand the kind of education required in occupational education.

#### PROVIDING APTITUDE TESTING

Third, terminal education requires the existence of a well-equipped testing clinic to determine student aptitudes for semi-professional courses. Job analyses must be made of typical jobs available, so that a battery of tests can be devised to measure essential qualities needed for a particular occupation. Some existing tests may need modification to make them more directly applicable to the semi-professional field.

In cases where there is a question of the validity of test batteries, checks should be made by trying out the batteries on a group of successful practitioners and then standardizing the tests on the scores made by persons successful in the field. There are too few tests for determining ability for specific occupations. While it is probable that no perfect test or battery of tests can be devised for specific occupational aptitudes, much improvement can be obtained by experimentation.

#### ADAPTING PERSONNEL PROCEDURES

Fourth, student personnel procedures for terminal students need to be different from those used with transfer students. Guidance should be concerned with occupational information and attitudes needed for occupational success. There should be preliminary guidance from prospective employers, which should be designed to give the student a realistic understanding of job requirements. There should also be guidance by successful practitioners in the field, who know more about general requirements than instructors can know.

While few junior colleges have organized any conscious program of guidance for parents, it would seem highly desirable to inform parents, as well as students, about occupational possibilities in terminal work. One of the problems in terminal education for students

who should take work of this type is to convince them of the educational respectability of being trained for the kind of work represented by the semi-professions.

Also of great usefulness in the personnel program is a system of anecdotal records revealing personal qualities of the student. These records should be kept for guidance purposes by instructors and, where possible, by those in charge of giving the student work experience. Such records are frequently more valuable in predicting emotional adjustments to specific situations than are quantities of test records.

#### APPOINTING ADVISORY COMMITTEES

Fifth, since the constant adjustment of curriculum offerings to industrial needs requires that the junior college be *en rapport* with industrial changes, there is a constant need for community committees to serve the college in an advisory capacity. In general these committees should be drawn from occupational groupings, similar to the fields in which students are taking training. These committees provide the college constituency with constant interpretation of the college offerings. Further, frequent meetings between the faculty and the committees will assist in insuring mutual understanding. The committees may also be used to pave the way for visits by students to industrial and community enterprises. Experiments should be performed to find out the best methods of preparing students for such visits and of checking to learn whether the visits accomplish the purposes that they are designed to serve. It is highly advisable to have representatives of labor organizations on some community committees. This representation is desirable both for the purpose of giving the student an understanding of labor problems and for the purpose of insuring the co-operation of labor in allowing students to gain apprenticeship experience. Most important, probably, is the help that community committees can give in the placement of students and in a constant evaluation of the college program. The whole program of occupational education falls down unless there is such an integration of the college and the community as to provide for some work experience for the student while he is taking the course and for placing him at the end of the course.

## PROVIDING WORK EXPERIENCE FOR STUDENTS

Sixth, definite arrangements must be made by the college to provide for the work experience to which reference has been made. There are several ways to accomplish this end: arranging for work in summer and vacation periods, providing part-time work in the college, utilizing work opportunities provided by the National Youth Administration, scheduling work periods in the regular college program, and arranging co-operative work experience in industry.

Probably the most valuable of these methods is the co-operative work. Experiments need to be performed to find out what time arrangements are best. Should a student be out a month and in a month, or out a week and in a week? What time arrangement gives best results for education? How may the co-operative work best be co-ordinated with the work of the college? The answer to the last question lies, at least partially, in a job analysis of the duties of a co-ordinator in co-operative work arrangements.

Undoubtedly a great deal of motivation for classroom work is provided by work experience. Studies need to be made showing the best methods of obtaining such motivation. Part of the motivation unquestionably lies in the more rapid increase in maturity of the student engaged on an actual job. The values inherent in such motivation and the added maturity gained should be exploited to the fullest extent.

## PROVIDING AN OFFERING IN "DIVERSIFIED OCCUPATIONS"

Seventh, most junior colleges should offer a program in "diversified occupations." Work in this field is needed for occupations in which the groups in training would not be large enough to warrant a regular course. In cities with populations of less than fifty thousand, such a program is essential, and it should be considered also by institutions in larger cities.

In general the student in the diversified-occupation program should spend about half his time on the job and about half his time taking related subjects at the junior college. For example, a girl who wants to become a dental assistant in a small city which can absorb only two or three dental assistants a year will work in a dentist's office for about twenty hours a week and receive from the

dentist all the information that he is able to give her about the practical aspects of the job. At the junior college she may take a course in speech to help her as a receptionist, a course in chemistry to help with her technical work, a course in accounting to help her keep records, and a course in typewriting and shorthand to give her secretarial knowledge. The chief problems in developing a diversified-occupation program are the planning of the schedules and the individualizing of the college instruction to conform with student needs. Proper integration of such a program requires that an outside co-ordinator be in constant touch with employers and students.

#### ARRANGING FOR PLACEMENT, FOLLOW-UP, AND CONTINUATION TRAINING

Eighth, provision must be made in the terminal program for placement, follow-up, and continuation training. Placement is assisted by community committees, co-ordinators, and co-operation with existing local, state, and federal employment agencies. In some junior colleges the co-ordinator of the junior college is located in the offices of the public employment agencies. In others he is located in the junior college but makes duplicate cards for the junior placement division of the public agencies. The latter system seems preferable, although the desirability of a particular system varies with the community.

Large city junior colleges have big opportunities for providing programs for graduates who wish further education and for all employed persons who may be in fields of decreasing opportunity and who therefore wish to learn new occupations. In most cities the municipal high school has excellent equipment for terminal work. Moving the regular program to an earlier time schedule will make it possible to put the institution on a two-shift day. Such programs, where they are in operation, cost the city very little since existing facilities can be used and in many instances instructors can be paid by federal funds.

#### EVALUATING THE PROGRAM

Ninth, since the terminal course is designed to be of more or less immediate value to the student, a constant program of evaluation should be in operation. This evaluation may be accomplished by

using industrial leaders, by consultation between junior-college faculty and lay groups, by in-service training of the college faculty, by securing student opinions, and by making constant studies of course materials to see that these materials fit in with occupational needs.

#### CONCLUDING COMMENT

The elements of terminal education indicated by the foregoing imply new techniques for most junior colleges in the operation of terminal courses. The assumption is that for each course offered the institution needs to go through approximately the same procedure. Terminal programs are not successful if they are built on anything other than an individual institutional study of the community occupational needs. Courses built on this foundation are usually successful in attracting community and student interest.

## THE PLACE OF MATHEMATICS IN EDUCATION FOR SOCIAL CHANGE

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Two of the major functions which the teacher of mathematics is expected to perform are (1) to lead the pupil to the realization of the objectives of mathematics and (2) to make contributions to the objectives of general education. In the attainment of the objectives of general education, the entire system of school organization constantly changes, in attempts to meet the ever-varying needs of everyday life, and mathematics, being part of that organization cannot, therefore, remain static. Each new generation is expected to re-examine the offerings of the mathematical curriculum and to adapt the subject to the changes that are taking place in the social and economic life of the people. When materials become obsolete, they must be discarded, and socially useful subject matter must take their place.

### SOCIAL ASPECTS OF ARITHMETIC IN ELEMENTARY SCHOOL

Even in the primary grades, mathematics can be related to the pupils' everyday experiences. Children make purchases at the store, play number games, look up pages in books, and read numbers on houses and on automobile licenses. They bring to the classroom an abundance of informational arithmetic which they have gathered in work and play activities. Such activities give number work a social setting. They are valuable in teaching facts about number, and at the same time they bring out some nonmathematical information. Thus, even at this early stage, number meanings can be acquired in relation to living, personal experiences.

Throughout the elementary school, personal experiences and interests of the pupil should give social settings to the mathematical work. To provide this social setting is not difficult because in his life at home and in school the pupil encounters problems calling for

the use of arithmetic and geometry. The mathematics program should keep pace with his growing needs. His first experiences in business methods are met in the simple business methods used at home, such as keeping simple accounts, paying bills, and managing allowances and incomes. Frequently the experiences of brothers, sisters, and parents bring up business problems for family discussion. Much is to be gained for mathematics by introducing in the classroom a carefully selected number of such problems. They motivate class work, make a real appeal to the learner, and make mathematics meaningful. Moreover, they have social values because they represent the types of problems that adults meet and must solve.

Extremes in the use of these problems must, of course, be avoided. Their function is to supplement textbook problems. Alone, they cannot be depended on to lead the pupil to mastery of the essential elements of arithmetic. Their greatest values lie in motivating the formal work and in teaching children to use arithmetic in everyday-life activities. The major interest should lie not in the activities but in the mathematics.

#### SOCIAL ASPECTS OF JUNIOR HIGH SCHOOL MATHEMATICS

During the junior high school period pupils develop an increasing interest in the activities in which adults engage both at home and in the community. They begin to prepare themselves for participation in adult economic affairs and for assumption of a share of social responsibility in the community.

In the home, problems arise which relate to buying and selling, borrowing money and paying interest charges, wages and budgets, insurance, taxes, savings, and investments. These problems can be used to motivate the formal work of mathematics, the pupils being made to see that mathematical skills and knowledge are of service to them now and later. Thus it may be shown that the art of buying the necessary things of life intelligently and economically should be acquired early by everybody; that it is not sufficient to be able to compute interest yielded by an investment but that one must also learn to invest wisely; that, besides finding the discount in a sale, one must understand the reasons for sales, such as reduction of stock at the end of a season or changes in styles.



It is important, however, that the social facts and concepts be such as come within the learner's experience and such as can be understood by the pupil. They must be fully discussed by the teacher. If they are understood, they will arouse interest. Learning will be increased. Otherwise the mathematical training derived from them will be small. The meaning and importance of banking, investments, insurance, and taxes should be taught, but highly technical phases should be avoided. The aim is not to train future bankers, brokers, insurance agents, and accountants but to familiarize pupils with important social concepts through applications which are of interest to all citizens. The acquisition of this social knowledge requires carefully planned experiences. To obtain information at first hand, pupils may visit banks, the stock exchange, and the board of trade. Persons of the community who are actually engaged in vocations may be invited to give brief and clear talks to the classes, which will explain many difficult situations. An insurance agent may discuss the meaning, the purpose, and the importance of insurance as an investment and as a protection against losses. A banker may show how the bank works for the community. A broker may tell of making wise investments. A businessman can discuss such uses of mathematics in business as everybody should know. The local governmental authorities will be glad to send persons qualified to explain the meaning of taxes and budgets, and information about federal taxes can be obtained from the United States Treasury Department.

#### SOCIAL ASPECTS OF HIGH-SCHOOL MATHEMATICS

It has been shown that elementary-school mathematics has ample opportunity to fill a place in education for social change and that, from the beginning of the school period through the junior high school, the mathematical curriculum can be planned to run parallel to the growing needs of the pupils and to lead them gradually into the adult uses of number. With proper safeguards against spending too much time on the sociological phases, to the neglect of mathematical instruction, mathematics will be greatly benefited through the consequent gain in reality, meaning, and interest.

The problem of teaching high-school mathematics for social change is not at all simple. For the present high-school curriculum

in mathematics did not grow out of the everyday needs of the pupils; it was inherited by the high schools from the colleges. They, in turn, had taken their first courses from European institutions. The organization of algebra and geometry was based on the disciplinary point of view. It was not planned to parallel the mental development of the pupils who were then studying mathematics. The textbooks were written by college professors who had had little or no experience in teaching high-school pupils. They were specialists in mathematics, and the language of the textbooks was that of the scientist rather than that of the learner. Hence, from the start, high-school mathematics was a difficult subject, and many teachers took it for granted that large numbers of pupils were incapable of mastering it. Nevertheless, near the end of the nineteenth century, algebra and geometry had become widely accepted as required high-school subjects. Algebra was presented as a science; geometry, as a logical system. Both were college-preparatory subjects.

The need for a different type of algebra and geometry for all pupils was gradually being recognized, and in 1893 recommendations were made by a subcommittee of the famous Committee of Ten for the inclusion of some informal algebra and geometry in the curriculum of the elementary school. One hour a week in the upper three grades was to be devoted to systematic instruction in concrete or experimental geometry, and algebra and geometry were to be taught not as separate subjects but in connection with arithmetic.<sup>1</sup> This recommendation marks the beginning of a movement to develop a type of mathematics other than arithmetic to meet the needs of the pupils in education for social change. It started in the elementary school, and years later it found its way into the high school.

#### EARLY CHANGES IN HIGH-SCHOOL MATHEMATICS

The high-school pupil of that day differed from the modern pupil in several ways. He took school work seriously; for the tendency of the family was to keep adolescents out of school because they were needed at home or because they must contribute to the family in-

<sup>1</sup> *Report of the Committee on Secondary School Studies Appointed at the Meeting of the National Education Association, July 9, 1892*, pp. 110, 111. United States Bureau of Education, Whole No. 205. Washington: Government Printing Office, 1893.

come by earning money as soon as they could. When the family released a child to go to high school, it was because he had given promise as a student. Usually he realized that the family was making a sacrifice to keep him in school. Moreover, many pupils came to prepare for leadership in the community, to enter professions, or to become engineers or scientists. Neither the pupils nor their parents were critical of the courses that were required. If a child failed, it was generally assumed that failure was the pupil's fault rather than the teacher's.

The records of the United States Office of Education show that in 1900 the high-school enrolment was still only about five hundred thousand pupils.<sup>1</sup> Of this group, 56 per cent were taking algebra, and 27 per cent were taking geometry. By 1905 these percentages had increased to 58 in algebra and 28 in geometry.<sup>2</sup> In spite of this satisfactory increase, the leaders in the teaching of mathematics had become greatly concerned about the difficulties encountered by the pupils in the study of these subjects. Numerous reforms were suggested, not only in the United States, but also in European countries. Today these movements are identified with the names of Perry and Nunn, of England; Klein, of Germany; Tannery and Borel, of France; and E. H. Moore, of the United States. The reforms stressed (1) the use of concrete illustrations of abstract principles of mathematics; (2) emphasis on applications of mathematics to physics, chemistry, and engineering; (3) experimental and laboratory methods; (4) elimination of obsolete or useless materials; (5) bringing down from the upper courses useful mathematical principles; (6) deferring less important subject matter to later courses; and (7) correlation of the various mathematical subjects.

It is to be noted that the reforms represented largely the mathematician's point of view. They were concerned with the improvement of the organization of traditional courses and with the betterment of teaching procedures. No radical revision was contemplated. It was soon found that the reforms were not sufficient to overcome the criticisms which began to come from without the mathematical

<sup>1</sup> "Statistical Summary of Education, 1935-36," *Biennial Survey of Education, 1934-1936*, Vol. II, chap. i, p. 16. United States Office of Education Bulletin No. 2, 1937.

<sup>2</sup> *Ibid.*, p. 20.

profession, namely, from the parents and the administrators. These groups were objecting to the large number of failures and demanding that usefulness carry more weight in the selection of instructional materials.

The demands for further reforms in mathematics were largely the outcome of the fact that the high-school population was changing. Social and economic changes were causing reduction in the employment of adolescents. As the economic opportunities open to youth decreased, the time that individuals could spend in school increased, and the popularity of education grew. In 1928 nearly four million pupils were enrolled in the public secondary schools.<sup>1</sup> It is only natural that many pupils then entering the high school either did not care to study algebra and geometry or found the study of these subjects too difficult. With the increase in enrolment came, therefore, a decrease in mathematical requirements for graduation. Only 35 per cent of the group of 1928 were in algebra courses, and 20 per cent in geometry.<sup>2</sup> By 1934 the school population had grown to over five and a half millions,<sup>3</sup> but only approximately 30 per cent were taking algebra and 17 per cent geometry.<sup>4</sup> Thus, as during the period 1900-1934 the number of pupils increased from one-half million to five and a half millions, the group not in mathematics increased from 17 per cent to 53 per cent. While in 1900 the number of pupils in mathematics was about five times as great as the number not taking it, in 1934 the situation was completely reversed, and the number not in mathematics had become much greater than the number in the mathematics group.

The change in the character of the pupils raised new obligations for the teachers of mathematics. When the enrolment in a subject increases from 430,000 to 2,600,000 within a third of a century, many pupils will be taking the work who are not interested, and many others will try but find the work too difficult. It was realized that many pupils not taking mathematics should be attracted. The result was a change in the point of view reflected in the teaching and in the curriculum. While in the beginning the teacher's point of view was that of the mathematician, the new point of view was that of the psychologist. The findings of many studies on errors and difficulties

<sup>1</sup> *Ibid.*, p. 8.<sup>2</sup> *Ibid.*, p. 20.<sup>3</sup> *Ibid.*, p. 16.<sup>4</sup> *Ibid.*, p. 20.

threw light on the mental processes of the pupils and led to improvement in teaching. By finding ways of motivating the work, teachers were learning how to attract pupils who were not interested in mathematics. A great deal was done for the slow pupil by teachers and textbook-writers. Summaries, self-tests, study aids, supervised study, and remedial work became part of the regular teaching and study procedures. The great amount of adjustment made along this line has brought the criticism that the standards in mathematics have been lowered to the level of the slow pupil, with neglect of the better pupil.

If, with all the help received, the pupil was still unable to do the work in the regular high-school courses in mathematics, he was often transferred to a course in shop mathematics or in commercial arithmetic. Frequently this change did not help him because he found the work in these courses no more interesting and no more simple than the regular mathematics. A different way of solving the problem had to be found.

#### PLANNING MATHEMATICS CURRICULUMS FOR TWO GROUPS OF PUPILS

The teachers of mathematics today are facing the following situation. The high-school population divides itself into two groups. The smaller consists of pupils who take mathematics because they are interested or because they expect to need it in the work that they plan to do later in life. Most of them plan to continue school work in the colleges. The large group consists of pupils who dislike mathematics as it is presented in the traditional courses, or who find it too difficult, or who do not expect to need it later in life. They are willing to take the chance of getting along without it. Many will go on to colleges, but the majority of them do not expect to obtain college educations.

The mathematical needs of the first group are well provided for in present mathematics courses, which will be further improved in the future as they have been in the past. The mathematical magazines and the Yearbooks of the National Council of Teachers of Mathematics will continue to offer aids and suggestions to the teachers. For example, the recent report of the Joint Commission of the Mathematical Association of America and the National Council of

Teachers of Mathematics<sup>1</sup> is devoted entirely to the mathematics curriculum. It gives a full discussion of the guiding principles for the organization of the curriculum and presents two plans worked out in detail. The progressive teacher will receive much help from the study of this report.

The most pressing problem before the teachers of mathematics is to formulate a second curriculum which will attract, and be profitable for, the large group of pupils now going through the high school without taking courses in mathematics. Since many colleges are admitting such students, there is danger that large numbers will graduate from the colleges with no mathematical training beyond that offered in the elementary school and that which they gather incidentally in other subjects and in everyday-life experiences.

It is a serious mistake to assume that a large portion of the school population will never feel the handicap which comes from a lack of mathematical knowledge. Even as early as 1893 the importance of some knowledge of algebra and geometry as a part of general education was emphasized by the Committee of Ten. Since then, a large amount of algebra and geometry has come into general use. It appears in the pupil's everyday experiences in school, in the home, and in the community. Mathematics has justly been called an important factor in the art of living together.

The organization of the mathematics curriculum for this large group should be controlled by a new point of view, which may be called the "social point of view." Courses will be organized in social units. Mathematics will be learned through use, but the mistakes of incidental teaching will be avoided. To the learner the mathematical work will seem incidental; actually it will have been planned with great care, so that mathematical objectives are not slighted. Much of the traditional mathematics will be omitted, but the type of mathematics that people in general should know and be able to use will be retained. The interesting phases of nonmathematical situations will be skilfully correlated with the study of mathematics.

Much work has been done on this type of correlation. New text-

<sup>1</sup> *The Place of Mathematics in Secondary Education*. The Final Report of the Joint Commission of the Mathematical Association of America and the National Council of Teachers of Mathematics. Fifteenth Yearbook of the National Council of Teachers of Mathematics. New York: Teachers College, Columbia University, 1940.

books have been written with such titles as *Useful Mathematics*, *Mathematics for Modern Life*, *Mathematics for Everyday Use*, *Living Mathematics*, and *Mathematics and Life*. The trend is clearly toward socialized mathematics. Experiments with socialized mathematics are being carried on in some large cities. The most recent contribution to this problem is the report of the Committee on the Function of Mathematics in General Education, of the Progressive Education Association.<sup>1</sup> This study devotes two chapters to a discussion of the relation of mathematics to the purposes of general education. It does not propose a curriculum, but educators who are working on the curriculum will find the report most helpful.

#### MEASUREMENT OF RESULTS

Attention has been called to several types of objectives. In the past the teachers of mathematics have placed most emphasis in teaching on the objectives of mathematical education. Moreover, they have realized that the results of their efforts must be measurable. Many kinds of tests have been developed for the purpose of obtaining such measures. These tests do much, in addition, to improve the teaching of mathematics because they tell definitely what the teachers should strive for, and they illustrate, with specific examples, the concepts and processes that the pupils should master. If pupils are to be successfully trained in effective ways of thinking, in desirable attitudes, in improved study habits, in widening their interests, and in appreciations, it is necessary to discover procedures of successful training of this type and to design tests for measuring the results. The solution of this difficult problem has been worked out for some of the intangible objectives of mathematics. For example, tests have recently been constructed to measure functional thinking. Such tests are reported in the Ninth Yearbook of the National Council of Teachers of Mathematics.<sup>2</sup> These tests are useful

<sup>1</sup> *Mathematics in General Education*. A Report of the Committee on the Function of Mathematics in General Education for the Commission on Secondary School Curriculum. Progressive Education Association Publications. New York: D. Appleton-Century Co., Inc., 1940.

<sup>2</sup> Herbert Russell Hamley, *Relational and Functional Thinking in Mathematics*, pp. 194-215. Ninth Yearbook of the National Council of Teachers of Mathematics. New York: Teachers College, Columbia University, 1934.



because, in addition to measuring ability in functional thinking, they illustrate the characteristics of functional thinking in which pupils should receive training.

Likewise, it should not be difficult to construct a test for measuring the acquisition of study habits. Lists of desirable study habits are available, which tell what it means to teach pupils how to study. Published reports of supervised-study techniques give further assistance. Results of training may be evaluated by observing pupils when they are studying, by making attention profiles, and by using written test questions about good and poor ways of studying.

Again, teachers will be better able to develop special interests and keener appreciations when tests and ways of evaluating the results of training are available.

The problem of evaluating the progress of pupils is ably discussed in the Fifteenth Yearbook of the National Council of Teachers of Mathematics, already referred to, which sets aside an entire chapter for the discussion of the problem.

## HIGH-SCHOOL COMMUNITIES IN AN AREA OF DECLINING POPULATION

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IT is not too much to assume that schools constitute one of the important services in any community. The quality of a school program depends, among other things, on the size of the area and the number of people served, together with the taxing power which the area and the people possess. We can have too few schools, but in most parts of America there are too many—both elementary and secondary schools. With the hope of making some suggestions on how high-school centers might be determined, the writers undertook a study of Pike County, Illinois, designed to show relations between high-school districts and community boundaries.

Pike County, located on the western side of Illinois between the Mississippi and the Illinois rivers, has a land area of 786 square miles. About 90 per cent of its land is in farms, with corn, oats, hay, wheat, cattle, and hogs as the staple products. Being a river county with no industrialized centers of population and including a substantial acreage of agricultural land of marginal productivity, Pike County is a portion of that large area of Illinois which has lost population steadily during the past seventy years. The decline in population is shown in Table 1, which indicates that the population of the county in 1930 was 79 per cent of the population in 1870.

There are fifteen high schools in the county. Every village that has attained a population of more than two hundred, irrespective of its location or proximity to a large town, has a high school. Table 2 shows the villages of Pike County which have high schools, together with their populations, by decades, from 1910 to 1930.

Table 1 indicates the trends of population in Pike County as a

whole; Table 2, the general decline in the population of the small agricultural villages. Based on a declining population, both in the county as a whole and in the separate villages, the future seems to hold little for the high schools in the small towns. The larger centers, with their larger number of business and professional services, will doubtless continue to maintain their populations or to show slight increases. Furthermore, in keeping with a universal trend among agricultural villages,<sup>1</sup> the population of the smaller villages of Pike County will undoubtedly continue to decline.

TABLE 1  
POPULATION OF PIKE COUNTY, ILLINOIS  
FROM 1870 TO 1930\*

Year	Population
1870.....	30,768
1880.....	33,751
1890.....	31,000
1900.....	31,595
1910.....	28,622
1920.....	26,866
1930.....	24,357

\* Fifteenth Census of the United States:  
1930, Vol. I, "Population," Table 3, p. 285.

From another angle the population is related to the potential school enrolment. In most of the agricultural villages of the county there is a preponderance of older people in the population. Few persons of child-bearing age move into these villages. Whatever movement to the villages has occurred during recent years has been made up of W.P.A. laborers of advancing ages and of persons who, upon receiving old-age assistance, move into their home towns to spend their remaining years.

What, then, of the future of the high schools located in the small agricultural villages? It goes without saying that schools are of suffi-

<sup>1</sup> This conclusion is based on (a) a study of Illinois villages by S. C. Ratcliffe and Agnes Ratcliffe, "Village Population Changes," *American Journal of Sociology*, XXXVII (March, 1932), 760-67; (b) Paul H. Landis, *The Growth and Decline of South Dakota Trade Centers, 1901-1933*. Bulletin No. 279. Brookings, South Dakota: Department of Rural Sociology, Agricultural Experiment Station, South Dakota State College of Agriculture and Mechanic Arts, 1933; and (c) R. R. Martin, "Village Changes in the Pacific Northwest," *Social Forces*, XV (May, 1937), 536-42.

cient importance to deserve wise, long-range, and systematic planning. It may be assumed that a good high school, with varied curriculums, well-trained teachers, and an adequate tax base, can be maintained in a rural setting on the basis of a population of approximately three thousand. However, when the number of people in Pike County is divided by the number of high schools, it is found

TABLE 2  
POPULATION FROM 1910 TO 1930 OF PIKE COUNTY  
VILLAGES HAVING HIGH SCHOOLS\*

VILLAGE	POPULATION		
	1910	1920	1930
Barry.....	1,647	1,490	1,506
Baylis.....	385	388	352
Chambersburg.....			210
Griggsville.....	1,262	1,343	1,184
Hull.....	541	648	554
Kinderhook.....	371	332	318
Milton.....	330	348	332
Nebo.....	520	549	484
New Canton.....	473	540	479
New Salem.....	260	262	206
Pearl.....	842	669	492
Perry.....	649	491	451
Pittsfield.....	2,095	2,129	2,356
Pleasant Hill.....	576	433	700
Rockport.....			206

\* *Fifteenth Census of the United States: 1930, Vol. I, "Population," Table 4, p. 306.*

that there is a senior high school for every 1,624 persons. This situation might be more tolerable if each district had its share of the population, but no more than four of the fifteen high-school districts have sixteen hundred or more people. Each of eleven districts, then, has a population of less than the average. At least five of the eleven, it may be safely said, have fewer than nine hundred people.

Other questions now arise. Can an adequate high school be maintained in a district with as few as sixteen hundred people? Can sixteen hundred or fewer persons in a rural community, relying on property taxes on land which is none too profitable, carry the financial burden of a satisfactory high school? How many pupils will

such schools have? Table 3 answers the last question by furnishing the enrolments of the high schools of Pike County from 1931 to 1940.

The data in Table 3 reveal that, in five of the smaller agricultural villages (Baylis, Chambersburg, Nebo, New Salem, and Rockport), the high-school enrolments have remained practically stationary or in some cases have actually declined. The extremely small enrol-

TABLE 3  
ENROLMENTS IN HIGH SCHOOLS OF PIKE COUNTY  
ILLINOIS, FROM 1931 TO 1940\*

HIGH SCHOOL	ENROLMENT				
	1931-32	1933-34	1935-36	1937-38	1939-40
Barry.....	148	178	177	165	158
Baylis.....	34	34	26	32	30
Chambersburg.....	25	31	29	22	26
Griggsville.....	148	130	124	136	156
Hull.....	67	71	94	84	75
Kinderhook.....	21	32	33	40	80
Milton.....		61	50	66	81
Nebo.....	96	77	70	81	81
New Canton.....	53	77	100	72	94
New Salem.....	24	29	27	23	32
Pearl.....	37	38	67	80	74
Perry.....	70	60	81	108	114
Pittsfield.....	275	301	300	321	365
Pleasant Hill.....	124	147	175	183	205
Rockport.....	33	30	30	23	20

\* Compiled from the *Illinois School Directory* for 1931-32 (Circular 257), 1933-34 (Circular 273), 1935-36 (Circular 283), 1937-38 (Circular 300), and 1939-40 (Circular 310). Springfield, Illinois: Superintendent of Public Instruction.

ments of four of the schools will be noted. Two of these are four-year community high schools, and the two others are three-year high schools. In 1940 only five high schools in the county could boast enrolments of one hundred or more. At least two districts where the enrolments were close to eighty (Hull and Kinderhook) will probably show decreases in 1941 because they have been drawing pupils from non-high-school territory which has since become a part of a community high school district. Enough has been said to indicate that a reduction in the number of high-school districts is needed. Additional evidence on that point is offered in Table 4, which shows great differences in the assessed valuations of the high-school taxing

units. These differences arise from the variations in the size of the districts and, in part, from the fact that there are three types of high schools in the county—community, township, and district.

A study of the annual per capita cost in these districts raises interesting questions. Is there any good reason why the per capita cost of giving a boy or girl a high-school education in the north side

TABLE 4  
ASSESSED VALUATION, HIGH-SCHOOL TAX RATE, AND PER  
CAPITA COST OF OPERATION OF HIGH SCHOOLS IN  
PIKE COUNTY, ILLINOIS, IN 1938

High-School District	Assessed Valuation*	High-School Tax Rate per \$100 Valuation*	Per Capita Annual Cost†
Barry.....	\$ 609,000	\$2.68	\$ 89
Baylis.....	346,000	1.32	145
Chambersburg.....	415,000	1.38	163
Griggsville.....	1,427,000	1.19	104
Hull.....	675,000	1.04	129
Kinderhook.....	.....	1.28	158
Milton.....	622,000	1.88	153
Nebo.....	179,000	1.13	94
New Canton.....	918,000	1.60	160
New Salem.....	275,000	1.75	143
Pearl.....	265,000	1.71	85
Perry.....	457,000	1.44	87
Pittsfield.....	3,125,000	1.28	95
Pleasant Hill.....	1,005,000	1.38	95
Rockport.....	177,000	1.38	136

\* Assessed valuation and tax rates were compiled from the annual statement of tax rates issued by the county treasurer of Pike County, Pittsfield, Illinois.

† Forty-second Biennial Report of the Superintendent of Public Instruction, July 1, 1936-June 30, 1938, Appendix A, p. 201. Springfield, Illinois: John A. Wieland, Superintendent of Public Instruction.

of the county should be \$163, while it is half that amount, or \$87, only seven miles away? Can there be any justification for a per capita cost of \$160 in the west side of the county, while it is \$85 on the east side? The answer seems to be that the school systems "just grew," unguided and unplanned. Small enrolments, ambitious building programs, and efforts to retire bonds help to explain the high per capita costs in some cases. Low salaries, minimum of equipment, and reduced curriculums may explain low per capita cost of operation in other schools.

A study of courses offered in thirteen of the high schools in the county reveals that eleven high schools offer commercial courses. One might assume that these offerings result from pressure brought to bear on boards of education by parents who are ambitious that their children have "white-collar" jobs. While eleven high schools offer commercial courses, only seven offer courses in agriculture, and only six schools have home economics. Might not the courses offered be a factor in producing a declining population in agricultural areas? Are not the rural high schools educating children off the farms? Could the schools themselves be helping to drain off the population in the rural communities? When consideration is given to the possibility of offering an enriched curriculum, a further examination of the curriculums of high schools in Pike County shows that only six have full-time teachers of music and only one has a full-time teacher of public speaking and dramatics. Not one high school in the county has a full-time teacher of art.

Parents themselves frequently voice dissatisfaction with the smaller high schools which can offer little to their children other than English, history, mathematics, and an inadequate course in science. Most people are anxious to give to their children the culture that comes with the broader social contacts possible in a larger high school; the advantages of well-constructed vocational programs; and opportunities in music, dramatics, and the fine and applied arts.

These facts argue for richer curricular offerings than the high schools in the smaller agricultural villages can afford. In a high school with an enrolment of thirty or thirty-two or even fifty pupils, it is questionable whether a really worth-while vocational program can be maintained. In such academic settings, standards must inevitably suffer, and children are left to an uninspired educational existence. A half-dozen pupils with typewriters, shorthand manuals, and an elementary bookkeeping course do not comprise a commercial program any more than a worth-while course in chemistry or physics can be taught without adequate laboratory facilities.

Since it seems neither practical nor possible for the high schools in the smaller agricultural villages to attempt to meet the demands of present-day education, perhaps the next best thing is to reorganize the present school system in an orderly manner on a county-wide



basis. Without doubt, the four smallest high schools should be discontinued; this action would reduce the number of high schools of the county to eleven. Even that rearrangement would be a worthwhile program in planning for the future of education in Pike County. Certainly with a reduced number of high schools, together with the resulting larger tax base and increased enrolments of the remaining schools, the curriculums could be expanded and enriched, and more valuable service could be rendered to the communities in which the schools are located.

Figure 1 shows how the county might be effectively served by eight high schools. Griggsville, Barry, Pittsfield, and Pleasant Hill are the four main trading centers of Pike County. All parts of the county look to one of these towns for distinctive services. These four centers alone maintain the services that should insure growth or at least prevent a marked loss in population. In these centers, too, the high-school enrolments have shown fairly consistent increases. Perhaps the most effective school program would plan to locate the high schools of the county in these four centers. It is probable, however, that such a plan would alienate the voters in the smaller centers and would not be feasible at the present time. The alternative, then, would be to eliminate the smaller high schools where the pupils could be easily transported to larger schools.

In such a program the twenty-five or thirty pupils from Chambersburg could be transported to Perry on a concrete highway, with the slight inconvenience of being obliged to travel about two miles on a gravel road. The small high schools of Baylis and New Salem lie within easy access of Barry, Griggsville, and Pittsfield. Pupils from New Salem probably should go to Griggsville. Pupils who attend Baylis might go to any one of the three places. Since Kinderhook will probably show a decline in enrolment for 1940-41 and thereafter, its district might well be combined with Hull or New Canton. Rockport, a three-year high school with an enrolment of twenty in 1939-40, might conveniently be combined with New Canton, Pleasant Hill, or Pittsfield. Nebo now looks to Pleasant Hill for such services as banking, dental work, and even for a grain elevator. Since Nebo is only five miles from Pleasant Hill and since the Pleasant Hill Community High School district extends to within two

miles of Nebo, the pupils of the high school in the latter town could be transported over an all-weather road to Pleasant Hill. Pearl has a township high school. It is probable that no pupil who attends Pearl High School lives farther than two or three miles from the concrete highway. The pupils from Pearl High School, therefore, might readily be taken to Milton. Milton draws pupils from a fairly

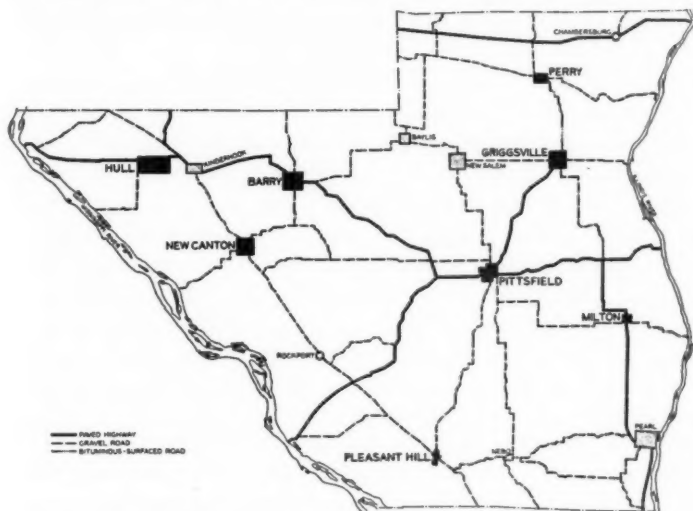


FIG. 1.—Location of the fifteen existing high schools in Pike County, Illinois, and locations (in heavy black) of eight high schools in proposed reorganization. Only the main paved and gravel highways are shown.

large area on the east side of the county. In addition, it provides such services as banking, the distribution of farm machinery, and medical facilities.

Under such a plan of reorganization, high schools would be located in villages which now serve as centers for specific services for rather large portions of the county. Such a reorganization would place the high schools in the trade centers and would make the high-school communities coterminous with the areas of trade and professional services. Thus the structure of the high-school communities would be adapted to the conventional trade areas. Fortunately, instead of

the present arrangement of fifteen high schools, this plan would reduce the total to eight, with an average of 3,045 people to each district. If the districts were properly drawn, this average might be approximated in at least half of the districts which would be created as a result of the new organization. It is probable, also, that no high school would then have an enrolment of less than 150 and that the curriculums could be improved. It is probable, too, that no district would have an assessed valuation of less than a million dollars.

#### CONCLUSIONS

Because of the ambitious programs for school expansion in areas which are declining in population, the following conclusions seem justified. (1) The high schools which are established in many agricultural villages do not furnish the children of village and open-country areas with the types of curriculums, instruction, and educational equipment which might be provided if a reorganization of the districts were effected. (2) Unless some plan for reorganizing the high-school districts is employed, little can be done to improve the present situation. If reorganization is not brought about, the high schools will merely be the victims of aimless drift and unwarranted competition. (3) Any program of educational planning which is inaugurated should be based on the well-established observation that every community has its center, its radii, and its periphery, along which and to which goods and people move. It therefore seems not only reasonable but advantageous to locate high schools where people find other necessary services in the largest variety.

## FROM SCHOOL TO WORK IN THE DEPRESSION YEARS. II

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THE first<sup>1</sup> of this series of two articles, which reports a study of the problems of the transition from school to work, considered the employment and unemployment status and the occupational mobility of three groups of high-school graduates: one group graduated in 1928 and 1929, before the effect of the depression had begun to be felt; another group graduated in 1933, at the depth of the depression; and a third group graduated in 1935, after the economic condition had begun to improve. This concluding article discusses the occupational ambitions of these graduates and outlines the implications of the findings of the investigation.

### OCCUPATIONAL AMBITIONS

The effects on youth of the transition and of the depression years should be manifested, if anywhere, in their attitudes and ambitions.

In Table 6 the occupational ambitions of the three major groups, as expressed in 1939, are classified according to occupational level. None of the pre-depression group aspired to enter any occupation below the commercial level, whereas in the depression and the post-depression groups, substantial percentages of boys aspired to the skilled level. Similarly, the percentages with ambitions at the commercial level were larger in the last two groups than in the pre-depression group, while the percentages with professional ambitions were smaller. Apparently the more recent graduates have learned, rightly or wrongly, not to aim so high as did their older brothers

<sup>1</sup> Donald E. Super and Robert D. Wright, "From School to Work in the Depression Years. I," *School Review*, XLIX (January, 1941), 17-26.

and sisters. One fact seems surprising: general observation has led many persons to the conclusion that the girls thinking of homemaking as a career are more numerous now than they were in the 20's, but these data show that the percentages of girls wanting to be homemakers were lower in the later years. This fact can perhaps be explained in terms of age differences; more of the pre-depression graduates, who were older when filling out the questionnaires, had reached the age of readiness for marriage whereas more of the recent graduates still wanted to work before marrying.

TABLE 6  
PERCENTAGE DISTRIBUTION OF HIGH-SCHOOL GRADUATES OF THREE  
PERIODS ACCORDING TO OCCUPATIONAL AMBITIONS IN 1939

CLASSIFICATION OF OCCUPATIONAL AMBITION	PERCENTAGE OF CLASSES OF 1928-29			PERCENTAGE OF CLASS OF 1933			PERCENTAGE OF CLASS OF 1935		
	Men (9)	Women (14)	Both (23)	Men (12)	Women (13)	Both (25)	Men (9)	Women (8)	Both (17)
I. Professional.....	67	43	52	42	23	32	45	13	29
II. Managerial-proprietary.....	11	21	17	8	23	16	22	.....	12
III. Commercial.....	22	.....	9	17	23	20	11	62	35
IV. Skilled.....	.....	.....	.....	33	.....	16	22	.....	12
V. Semi-skilled.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
VI. Unskilled.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Homemakers.....	.....	36	22	.....	31	16	.....	25	12
Total.....	100	100	100	100	100	100	100	100	100

The principal reasons given by sixty-five of the respondents for their occupational ambitions are shown in Table 7. "Interest or ability" was the reason most often indicated, but the part played by these factors in the minds of the boys declined with the depression from 73 per cent to 50 per cent and then rose to 56 per cent, whereas it increased in the case of the girls from 80 per cent to 100 per cent. The masculine trend would be expected as a result of economic pressure, but the feminine is difficult to explain. Security played a more important part in a time of economic pressure, but again there is an important sex difference, for this factor did not influence the girls. "Opportunity" also played an increasing part in time of economic stringency, more boys choosing occupations be-

cause they believed better chances of employment were offered. The other factors do not seem to follow a particular pattern, and they affect only a few cases.

Table 8 presents data on the relation of the graduates' vocational ambitions to their occupations in 1939 in the case of those supplying the necessary information. Only 5 per cent of the 1928-29 graduates indicated a desire to change occupational level, while 30 per cent

TABLE 7

PERCENTAGE DISTRIBUTION OF HIGH-SCHOOL GRADUATES OF THREE PERIODS  
ACCORDING TO FACTORS AFFECTING VOCATIONAL AMBITIONS

FACTORS (FIRST CHOICE ONLY)	PERCENTAGE OF CLASSES OF 1928-29			PERCENTAGE OF CLASS OF 1933			PERCENTAGE OF CLASS OF 1935		
	Men (11)	Women (15)	Both (26)	Men (12)	Women (12)	Both (24)	Men (9)	Women (6)	Both (15)
Interest or ability . . .	73	80	76	50	92	71	56	100	73
High income . . . . .									
Secure income . . . . .	9		4	25		13	11		7
Clean job . . . . .									
Opportunity . . . . .	18		8	8	8	8	22		13
Family . . . . .		13	8						
Adult advisers . . . . .				8		4			
Teachers . . . . .							11		7
Friends of own age . . . . .		7	4	9		4			
Total . . . . .	100	100	100	100	100	100	100	100	100

of the depression and the post-depression graduates desired to make changes. No doubt this finding reflects, in part, the tendency reported by Davidson and Anderson<sup>1</sup> and by Super<sup>2</sup> for youth to start at lower occupational levels and to rise to higher levels with increasing age and experience; in part it reflects the delay in getting started which resulted from the economic depression, the more recent graduates being still at lower levels than might otherwise have been expected. Table 8 also shows that the desired changes were

<sup>1</sup> Percy E. Davidson and H. Dewey Anderson, assisted by Karl Shlaudeman, *Occupational Mobility in an American Community*, p. 186. Stanford University, California: Stanford University Press, 1937.

<sup>2</sup> Donald E. Super, "Occupational Level and Job Satisfaction," *Journal of Applied Psychology*, XXIII (October, 1939), 547-69.

upward in the occupational scale. The fact that the 1935 male graduates aspired to rise 1.7 steps in contrast to the half-step of the 1933 group suggests that the age factor is the more important in this comparison.

The pre-depression graduates had been in their lifetime occupations for 5.6 years on the average, although they had been out of high school for ten or eleven years and had graduated from college six or seven years before these data were gathered. Some delay in getting into the lifetime occupation is suggested even for this group.

TABLE 8  
OCCUPATION OF GRADUATES IN 1939 AND ULTIMATE AMBITIONS

	CLASSES OF 1928-29			CLASS OF 1933			CLASS OF 1935		
	Men	Women	Both	Men	Women	Both	Men	Women	Both
Number indicating no desire to change level.....	9	10	19	7	.....	7	1	6	7
Number indicating desire to change level.....	.....	1	1	3	.....	3	2	1	3
Total.....	9	11	20	10	.....	10	3	7	10
Average number of steps of desired change.....	.....	+ 0.09	+ 0.05	+ 0.50	.....	+ 0.50	+ 1.70	+ 0.30	+ 0.70
Number of persons in lifetime occupations.....	9	12	21	6	9	15	2	6	8
Average number of years in lifetime occupation.....	4.3	6.9	5.6	0.8	1.4	1.1	0.4	1.6	1.0
Average age at time of choice.....	15.0	14.0	14.5	16.8	14.2	15.5	18.4	13.4	15.9

In the case of the next two groups, those who were in the lifetime occupation had been in it for approximately one year. Since the depression graduates had been out of high school for six years, and out of college for two years, before the study was made and since the post-depression graduates had been out of school for only four years and some were still in college, the similarity in the length of employment in the lifetime occupation indicates that the 1933 graduates were definitely at a greater disadvantage than were the earlier and the later graduates; the depression delayed the expected advancement of the depression graduates and immobilized them occupationally. It should be noted also that in each group the girls had been in the lifetime occupation for one or two years longer than had the boys, no doubt because the girls' ambitions more nearly matched their more restricted opportunities.



The last row in Table 8 gives the average age of choosing a life-time occupation, that is, of establishing one's vocational ambition. This age rises from 14.5 for the pre-depression graduates to 15.5 for the depression group and 15.9 for the post-depression group. The trend is more clearly seen when it is noted that the average age for the boys changes from 15 to 16.8 to 18.4. These data reveal in another way the unsettling effect of economic disturbances, for lack of assurance concerning family finances and vocational opportunities makes the choice of vocation more difficult. The persistence of a sex difference is again interesting, the lack of change in the girls' age of choice being explainable on the basis of their lower-scaled ambitions in normal times.

The changes which had taken place in the vocational ambitions of these graduates as a result of experience were tabulated, but the number for whom such data were available was too small to give meaning to a detailed analysis. It may be said, however, that a total of twelve, or 14 per cent, of the graduates indicated that they had changed the level of their ambitions (two raising and ten lowering it) by an average of one step in the occupational scale. The reasons given for these changes were largely economic.

As a final check on the effect of the transition experience on the vocational attitudes of these high-school graduates, the levels of their vocational ambitions at the time of the study were compared with the occupational levels of their fathers. Other studies having repeatedly shown that high-school children tend to aim higher than their parents' level, it was thought that this comparison might reveal the extent of the deflation resulting from experience in the occupational world.

Table 9 shows that in each of the class groups approximately two-thirds of the graduates aimed higher than the paternal occupational level. Although the numbers providing the necessary data are too small for any final conclusions, this percentage appears to be smaller in the depression class; only eleven in nineteen, as compared with fourteen in eighteen and twelve in fifteen for the other classes, aspired higher than their fathers' levels. The last row shows that the average desired rise in occupational level was relatively constant for the three class groups. It may be concluded, therefore, that as

many post-depression as pre-depression graduates aspired to rise above their parents' level and that they wanted to rise as high above it. The conclusion that persons who have been out of school a longer time aspire as high as do those who have been out of school for shorter periods also seems justified from these data. Since information is lacking on the ambitions of these individuals when they were in school, it is impossible to determine the exact extent and nature

TABLE 9  
COMPARISON OF VOCATIONAL AMBITIONS OF GRADUATES OF THREE PERIODS AND OCCUPATIONS OF FATHERS

	CLASSES OF 1928-29			CLASS OF 1933			CLASS OF 1935		
	Men	Wom- en	Both	Men	Wom- en	Both	Men	Wom- en	Both
Number not aiming higher than paternal occupation.....	2	2	4	5	3	8	1	2	3
Number aiming higher than paternal occupation.....	7	7	14	6	5	11	8	4	12
Total.....	9	9	18	11	8	19	9	6	15
Average number of steps of change..	+1.6	+1.9	+1.7	+1.5	+1.8	+1.6	+1.4	+1.3	+1.4

of the effect of the transition on their ambitions, but the fact that they still aimed higher than the achievements of their parents and that ten years of experience had had the same effect as four suggests that work experience could not have been too deflating.

#### SUMMARY AND CONCLUSIONS

For the sake of accuracy and detail the preceding findings of this questionnaire study of the graduates of a small-town high school have been presented with a minimum of discussion. The conclusions reached will be brought together at this point in order to give a running account of how these groups of high-school graduates made the transition from school to work during the depression years.

Before going to work, some of these boys and girls had planned to go to college. The depression delayed this further training, at least in the case of the girls who graduated during and after the depression, and in some cases no doubt made further training permanently impossible. Persons who graduated during and after the depression were affected by a lag in other aspects of life also, including getting the first job, getting ahead on the job, choosing a lifetime occupation, getting started in the lifetime occupation, and getting married. All the pre-depression men graduates were fully employed at the time of the study, whereas only two-thirds of the depression and the post-depression groups were fully employed. The last two groups were more affected by unemployment after graduation and were handicapped also in that they were obliged to start their working lives on lower occupational levels than were their older associates. In spite of these adverse experiences, however, none of the subjects studied had been unemployed for more than half of the time which had elapsed since graduation.

School course, socio-economic status, and intelligence (as inferred from school course and socio-economic status) were found to play parts both in the securing of initial jobs and in remaining employed. This finding confirms the Regents' Inquiry<sup>1</sup> and the general opinion that those favored at the start are favored throughout. The higher occupational levels were found to provide more stable employment than the lower.

The vocational ambitions of the pupils graduating during and after the depression were found to be lower and to have been more affected by economic factors, such as security and opportunity, than were those of the pre-depression graduates, who aimed higher and placed more emphasis on interest and ability. About a tenth of the graduates had lowered their ambitions, largely as a result of economic factors. Fewer of those graduating during the depression aimed at occupational levels above those of their fathers, but those who did so aspired to rise as much above them as did the other groups. The effects of recovery were seen in the aspirations of the

<sup>1</sup> Ruth E. Eckert and Thomas O. Marshall, *When Youth Leave School*. The Regents' Inquiry into the Character and Cost of Public Education in the State of New York. New York: McGraw-Hill Book Co., Inc., 1939.

post-depression graduates, as in most other comparisons, although recovery was not complete by pre-depression standards. In many ways the depression or 1933 graduates appear to have been immobilized occupationally, for they did not succeed in closing the gap between them and the 1928-29 classes as much as was to be expected.

The implications of these findings should be briefly pointed out. With changing economic conditions to which ambitions and attitudes must be adjusted, it is clear that young people need a better understanding of these conditions and of the opportunities and problems which they face. A better understanding of their own abilities, especially as these relate to the opportunities open to them, is also needed in view of the increased emphasis on the latter and decreased stress on the former in their own thinking. Developing this understanding is nothing other than scientific vocational guidance.

Pupils on the lower intelligence and socio-economic levels need a type of training which will prepare them to compete more adequately for opportunities for which they are qualified. The occupations that they enter need to be studied in order that employment in these occupations may be stabilized for those qualified for the work and that methods may be found for selecting the workers worthy of promotion and making it possible for them to advance more rapidly.

Finally, ways must be devised for taking up the slack in vocational orientation and establishment, for eliminating the lag which was found to have developed in obtaining higher education, in getting a first job, in choosing a lifetime occupation, in getting started in the lifetime occupation, and in establishing a home.

## SELECTED REFERENCES ON SECONDARY- SCHOOL INSTRUCTION

### II. THE SUBJECT FIELDS

\*

THE same grouping of subject fields is being followed for the lists of references in the February and March numbers of the *School Review* as was used in the cycles of lists published during 1933-40, inclusive. The concept of "instruction" is also the same and includes curriculum, methods of teaching and study and supervision, and measurement. In each subject field the list includes items published during a period of approximately twelve months since the preparation of the list appearing last year.

#### ENGLISH<sup>1</sup>

DORA V. SMITH

University of Minnesota

59. ADLER, MORTIMER J. *How To Read a Book*. New York: Simon & Schuster, 1940. Pp. x+398.  
Indicts the schools severely for poor results in reading and proposes a plan for attacking books as wholes—especially the "Great Books"—as a means of "getting a liberal education."
60. ARNDT, C. O., and HUSBAND, JOHN. "Listen!" *English Journal*, XXIX (May, 1940), 371-78.  
Makes a plea for the importance of *listening* as a language art co-ordinate with speaking, writing, and reading.
61. BINKLEY, HAROLD C. "If the Salt Have Lost His Savor," *Journal of Higher Education*, XI (April, 1940), 182-88.  
Deals somewhat ironically but practically with the course in college Freshman English as the "ugly duckling" of the curriculum.
62. BOOTH, GEORGE C. "Can Propaganda Analysis Be Taught?" *Junior College Journal*, X (February, 1940), 310-12.  
Presents results of a junior-college course in propaganda analysis as evidence of value in such study.

<sup>1</sup> See also Item 435 (Clapp) in the list of selected references appearing in the September, 1940, number and Item 507 (Gray) in the October, 1940, number of the *Elementary School Journal* and Item 10 (De Boer) in the January, 1941, number of the *School Review*.

63. BRINK, WILLIAM G. "Reading Interests of High-School Pupils," *School Review*, XLVII (October, 1939), 613-21; "High-School Pupils' Interests in Magazines and Newspapers," *School Review*, XLVIII (January, 1940), 40-48.  
Reports results of a comprehensive survey of the reading interests of 1,532 high-school pupils in Chicago and analyzes the implications for the teaching of English.
64. CHILD, ELEANOR D., and FINCH, HARDY R. "Motion Picture and Radio: An English Elective," *Curriculum Journal*, X (October, 1939), 253-56.  
Describes a carefully planned course in motion picture and radio in the Greenwich (Connecticut) High School, showing wealth of interrelationships with English.
65. DYKEMA, KARL W. "Criteria of Correctness," *College English*, I (April, 1940), 616-23.  
Urges determination of standards of acceptability in language on the basis of social function.
66. FOUNTAIN, ALVIN M. "The Problem of the Poorly Prepared Student," *College English*, I (January, 1940), 309-22.  
Presents from the college viewpoint the problem of lack of high-school preparation in English. Gives practices from many departments of Freshman English.
67. FROGNER, ELLEN. "Grammar and Thought Approaches in Improving Sentence Structure," *School Review*, XLVII (November, 1939), 663-75.  
Presents concrete evidence of results in paired classes, one of which was taught sentence structure by a thought approach alone and the other by a thought approach combined with grammatical instruction. Further details appear in a similar article in the *English Journal*, XXVIII (September, 1939), 518-26.
68. FUESS, CLAUDE M. "Is 'English' Obsolete?" *English Leaflet*, XXXIX (June, 1940), 81-90.  
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69. GAY, ROBERT M. (editor). *Essays on the Teaching of English, in Honor of Charles Swain Thomas*. Cambridge, Massachusetts: Harvard University Press, 1940. Pp. xxii+286.  
Treats discursively of widely different phases of the teaching of English by writers with sharply divergent points of view.
70. GILKINSON, HOWARD, and KNOWER, FRANKLIN H. "Individual Differences among Students of Speech as Revealed by Psychological Tests: I," *Quarterly Journal of Speech*, XXVI (April, 1940), 243-55.  
Presents evidence of problems of speech exhibited by four hundred college students, with accompanying analysis of personal backgrounds and psychological adjustments.

71. GINSBERG, WALTER. "Films for High-School English," *English Journal*, XXIX (January, 1940), 44-49.  
Furnishes, with critical discussion, lists and sources of films for use in high-school English.
72. GINSBERG, WALTER. "Recordings for High-School English," *English Journal*, XXIX (February, 1940), 134-40.  
Summarizes, with critical evaluation and addresses of producers, recordings available for high-school English.
73. GRAY, WILLIAM S. (editor). *Reading in General Education*. A Report of the Committee on Reading in General Education. Washington: American Council on Education, 1940. Pp. xiv+464.  
Presents a complete overview of the place of reading in general education, with illustrative practices in high schools and colleges.
74. GRAY, WILLIAM S. (editor). *Reading and Pupil Development*. Proceedings of the Conference on Reading Held at the University of Chicago, Vol. II. Supplementary Educational Monographs, No. 51. Chicago: Department of Education, University of Chicago, 1940. Pp. xii+356.  
Presents papers concerning reading and pupil development, interpretation of meaning, reading for different purposes and in specific subject fields, reading interests and tastes, given at the Third Annual Conference on Reading held at the University of Chicago.
75. HENDRICKS, CECILIA HENNEL. "Exemption from Required Composition," *College English*, I (April, 1940), 604-16.  
Furnishes concrete suggestions from practices at Indiana University for determining exemption from Freshman English, together with some analysis of good and poor themes.
76. JACOBS, IDA T., and DE BOER, JOHN J. (editors). *Educating for Peace*. A Report of the Committee on International Relations of the National Council of Teachers of English. English Monograph No. 9 of the National Council of Teachers of English. New York: D. Appleton-Century Co., Inc., 1940. Pp. xiv+276.  
Compiles important essays on basic issues in world-relations. Includes practical curricular units and materials successfully used in secondary schools.
77. JEWETT, ARNO. "Detecting and Analyzing Propaganda," *English Journal*, XXIX (February, 1940), 105-15.  
Gives an account of objectives, methods, and results of an eleventh- and twelfth-grade unit in the analysis of propaganda.
78. LABRANT, LOU. "The Place of English in General Education," *English Journal*, XXIX (May, 1940), 356-65.  
Stresses the social importance of language in bringing about mutual understanding and in releasing and ordering emotional response.



79. *Language in General Education*. A Report of the Committee on the Function of English in General Education for the Commission on Secondary School Curriculum. Progressive Education Association Publications. New York: D. Appleton-Century Co., Inc., 1940. Pp. xii+226.  
Analyzes the social and psychological factors in language as the basis of understanding in human relationships and of cultural participation for the individual. Suggests implications for teaching.
80. LAZARSFELD, PAUL F. *Radio and the Printed Page*. New York: Duell, Sloan & Pearce, Inc., 1940. Pp. xxii+354.  
Presents evidence from the Princeton University study of the interrelationships of radio and the press, with the economic, educational, social, and political implications.
81. LEAVELL, ULLIN W. "Functional Reading and Democratic Living," *Peabody Journal of Education*, XVII (November, 1939), 121-26.  
Offers a helpful analysis of the active mental processes involved in reading for a social purpose.
82. LEVINSON, MARGARET H. "English for the Amiable," *Junior College Journal*, X (April, 1940), 445-49.  
Prescribes a sane program for junior-college Freshmen of nonacademic, non-vocational interests, whose intelligence quotients range from 75 to 90.
83. MURRAY, ELWOOD. "Speech Standards and Social Integration," *Quarterly Journal of Speech*, XXVI (February, 1940), 73-80.  
Makes a plea for the place of speech in social integration through emphasis on creativity and co-operation—"a meeting and merging and coalescing of minds and purposes on the basis of the best available truth."
84. ORNDORFF, BERNICE. "Radio Humor: A Unit for Grades VII-XII," *English Journal*, XXVIII (September, 1939), 526-34.  
Applies Bergson's types of the comic to the development and refinement of a sense of levels of humor in radio broadcasts.
85. ORNDORFF, BERNICE. "English via the Air Waves," *English Journal*, XXVIII (October, 1939), 619-28.  
Presents a careful and critical analysis of the contributions of radio to the course in English.
86. SALISBURY, RACHEL. "The Psychology of Punctuation," *English Journal*, XXVIII (December, 1939), 794-806.  
Makes a plea for an approach to punctuation through clarification of meaning rather than through grammatical construction.
87. *Speech Education in the Secondary Schools—Grades Seven through Ten*. School Publication No. 340. Los Angeles, California: Office of the Superintendent, Los Angeles City Schools, 1940. Pp. 32.  
Outlines nine aspects of a program in speech graded by years. Gives helps and bibliography on topics from one hundred speech demons to choral speaking.

88. SPENCER, PETER L. (chairman). *The Language Arts*. Review of Educational Research, Vol. X, No. 2. Washington: American Educational Research Association, 1940. Pp. 73-176.  
Presents summaries of research in the language arts of reading, English language, composition, and literature, foreign languages, handwriting, spelling, and speech, from October, 1936, to October, 1939.
89. WITTY, PAUL. "Motivating Creative Expression through Writing," *English Journal*, XXIX (March, 1940), 186-97.  
Utilizes an interest inventory for motivating creative expression in preference to attempting to furnish new experiences.
90. WOOD, HUGH B. "Language Arts: A Study Guide for Teachers." Curriculum Bulletin No. 3. Eugene, Oregon: Curriculum Laboratory, University of Oregon, 1939. Pp. 34 (mimeographed).  
States concretely and comprehensively the place of the language arts in the total program of the school, with suggestive units and outcomes for Grades I-XII.
91. WOODY, CLIFFORD. "Intrinsic Difficulties of Certain Reading Materials," *Peabody Journal of Education*, XVII (November, 1939), 149-60.  
Furnishes a helpful analysis of difficulties in tenth- and twelfth-grade literature due to factors in the reader, the subject matter, and the method of teaching.

#### THE SOCIAL STUDIES<sup>1</sup>

ROBERT E. KEOHANE  
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Articles published in the *Social Studies* and in *Social Education* have been omitted from this list in order that the available space may be given to references not so easily accessible to persons interested in the social studies.

92. *American Teacher*, XXIV (January, 1940), 1-39.  
Devoted to questions involving the teaching of facts about race and to the development of tolerance. Articles by Fay-Cooper Cole, Jenny L. Mayer, I. Keith Tyler, and Alice V. Keliher are of special interest.
93. BARD, HARRY; EMENHEISER, BENJAMIN F.; and PARKER, MARY. "Enrichment in History," *Baltimore Bulletin of Education*, XVIII (September-October, 1940), 84-93.  
Gives specific activities and references for selected units in United States history in Grades VII and VIII for regular and enrichment groups.

<sup>1</sup> See also Items 441 (Michener), 454 (Meltzer), and 483 (Phillips) in the list of selected references appearing in the September, 1940, number; Items 507 (Gray), 569 (Barnes), 577 (Michener and Long), and 579 (Shoen) in the October, 1940, number; Item 1 (Educational Policies Commission) in the January, 1941, number of the *Elementary School Journal*; and Item 76 (Jacobs and De Boer) in this list.

94. BESTOR, ARTHUR E., JR. (editor). *Proceedings of the Middle States Association of History and Social Science Teachers, 1939*, Vol. XXXVII. New York: Arthur E. Bestor, Jr. (Box 386, Teachers College, Columbia University), 1940. Pp. vi+88.
- Contains a number of addresses of general interest to teachers of the social studies. A discussion of the Regents' Inquiry into the Character and Cost of Public Education in the State of New York, a statement by Caroline F. Ware on the new examination of the College Entrance Examination Board, and several articles on aspects of international relations are of particular interest.
95. "Consumer Education: Why and How." Proceedings of a Conference on Consumer Education, George Peabody College for Teachers, Nashville, Tennessee, Held on May 17 and 18, 1940, in Co-operation with the Institute for Consumer Education, Stephens College, Columbia Missouri. Bulletin No. 75. Nashville, Tennessee: Curriculum Laboratory, George Peabody College for Teachers, 1940. Pp. 60 (mimeographed). Presents views of leaders in the field of consumer education.
96. "Democratic Education: Suggestions for Education and National Defense," *Progressive Education*, XVII (November, 1940), 452-79.
- A report prepared by Frederick L. Redefer and approved by the Board of Directors of the Progressive Education Association, which suggests a basis for discussion, study, and action.
97. EDUCATIONAL POLICIES COMMISSION. *Learning the Ways of Democracy*. Washington: Educational Policies Commission of the National Education Association and the American Association of School Administrators, 1940. Pp. 486.
- Makes a notable contribution to civic education by stating the essentials of education for democracy and by describing procedures actually used in schools of all major types. "Must" reading for administrators and teachers generally.
98. "Education for Citizenship—A Symposium," *California Journal of Secondary Education*, XV (March, 1940), 137-59.
- Is primarily of interest for I. James Quillen's article on the "Stanford Social Education Investigation." Also treats training for citizenship through pupil activities and through a curricular approach at the junior-college level.
99. FRASER, JAMES ANDERSON. *Outcomes of a Study Excursion*. Teachers College Contributions to Education, No. 778. New York: Teachers College, Columbia University, 1939. Pp. vi+84.
- Evaluates outcomes of an excursion made by Lincoln School Seniors to the Tennessee Valley. Concludes that the "best single measure of the value and worth of a study excursion is the increase in knowledge or information."
100. GAUS, JOHN M. "Civic Education Reconsidered," *Elementary School Journal*, XLI (October, 1940), 97-107.
- A political scientist suggests approaches to civic education of interest primarily to teachers at the secondary-school level.

101. GWYNN, J. MINOR. "Unit Lesson Planning—A New Supervisory Problem," *High School Journal*, XXII (December, 1939), 333-36.  
Will be helpful to supervisors of social-studies teaching. Illustrations are drawn from the high-school course in United States history.
102. HAEFNER, JOHN H., and OTHERS. *Housing America: A Source Unit for the Social Studies*. Bulletin No. 14. Washington: National Council for the Social Studies (1201 Sixteenth Street, Northwest), 1940. Pp. 80.  
Exemplifies what a source (or resource) unit in the social studies may be and offers a wealth of practical references, activities, and other suggestions for the teacher of sociology, economics, or American problems who is concerned with housing.
103. HARRINGTON, E. R. "High-School Archeologists," *School Review*, XLVIII (September, 1940), 517-20.  
Describes the work of an archeology class and club in the high school at Albuquerque, New Mexico.
104. HARRIS, JAMES H. "Controversial Questions in One High School," *School Review*, XLVIII (January, 1940), 49-54.  
Offers arguments, based on pupils' opinions, to meet criticisms of the teaching of controversial subjects.
105. HARTLEY, WILLIAM H. *Selected Films for American History and Problems*. New York: Teachers College, Columbia University, 1940. Pp. x+276.  
Discusses briefly criteria, sources, and problems of films useful in teaching the social studies. Reviews and evaluates about three hundred one- and two-reel films.
106. JOHNSON, EARL S. "The Place of Sociology in General Education," *Social Forces*, XIX (October, 1940), 41-44.  
Suggests some guiding principles for the teaching of sociology on the upper level of general education.
107. KING, A. K. "Recent Social-Studies Books and Pamphlets," *High School Journal*, XXIII (May, 1940), 224-28.  
A useful though incomplete bibliography of social-studies textbooks and pamphlets published from May, 1939, to April, 1940.
108. KNOWLTON, DANIEL C. (editor). *Education* (History Number), LXI (September, 1940), 1-57.  
Contains a number of useful articles on vitalizing history-teaching, especially through use of sources, models, motion pictures, and other visual aids.
109. MALLER, JULIUS B. (editor). "Social and Educational Research," *Journal of Educational Sociology*, XIV (September, 1940), 1-56.  
Contains several articles of value to the teacher of the social studies. See especially Julian C. Aldrich, "The Community as a Laboratory for Social Studies"; Irving Lorge, "Social Survey by Classroom Teacher"; and Julius Maller, "Social Trends in New York City."

110. MAYNARD, PROCTOR W. "Local Resources and Training for Democratic Citizenship," *Councilor* (Official Publication of the Illinois Council for the Social Studies), I (April, 1940), 18-22, 24. (Normal, Illinois: Robert S. Ellwood [editor], % Illinois State Normal University.)  
Indicates neglected sources of information and suggests ways of using them in the study of local resources to develop abilities needed for effective citizenship.
111. MORSE, HORACE T., and McCUNE, GEORGE H. *Selected Items for the Testing of Study Skills*. Bulletin No. 15. Washington: National Council for the Social Studies (1201 Sixteenth Street, Northwest), 1940. Pp. 72.  
Discusses briefly the testing of study skills in the social studies and gives 479 items for such testing. An invaluable aid to the teacher who wishes to construct such tests.
112. MYERS, ALONZO F. "The Attacks on the Rugg Books," *Frontiers of Democracy*, VII (October 15, 1940), 17-22.  
Indicates by abundant quotation the nature and purposes of the attacks on a well-known series of social-studies textbooks.
113. ROBINSON, DUANE. "Social Objectives and Social-Science Teaching in Washington High Schools," *School Review*, XLVIII (March, 1940), 197-204.  
Presents evidence to show why social-studies teachers in the state of Washington fail "to provide the scientific examination of modern society that many educators will insist is the paramount aim of modern education."
114. *The Social Studies in General Education*. A Report of the Committee on the Function of the Social Studies in General Education for the Commission on Secondary School Curriculum. Progressive Education Association Publications. New York: D. Appleton-Century Co., Inc., 1940. Pp. xvi+402.  
Applies progressive theory to school practice in the social studies at the secondary-school level, gives practical illustrations of content and procedures, and fuses theory and practice into a real unity. A "must" book for all teachers of the social studies.
115. STAFF OF THE TOWER HILL SCHOOL, WILMINGTON, DELAWARE. *A School Uses Motion Pictures*. American Council on Education Studies, Series II—Motion Pictures in Education, Vol. IV, No. 3. Washington: American Council on Education, 1940. Pp. viii+118.  
Reports on the use of motion pictures as a part of the study by the American Council's Committee on Motion Pictures in Education. Chapter iv records experience with motion pictures as a part of the social studies in Grades IV, V, VIII, IX, and XII.
116. SYMONDS, PERCIVAL M. "Economic Problems and Interests of Adolescents," *School Review*, XLVIII (February, 1940), 97-107.  
Identifies economic problems which high-school pupils consider most important and most interesting. Finds that interests closely parallel problems in general.

117. TEACHERS COLLEGE FACULTY, COLUMBIA UNIVERSITY. *Democracy and Education in the Current Crisis*. New York: Teachers College, Columbia University, 1940. Pp. 14. (Also in *Teachers College Record*, XLII [November, 1940], 99-115.)  
States the position of the faculty of Teachers College, Columbia University.
118. WESLEY, EDGAR B. "New Occasions Teach New Duties," *Harvard Educational Review*, X (January, 1940), 7-18.  
Analyzes elements in American social tradition and suggests general principles by which we may "teach democracy."
119. WILLIS, EARL T. "A Socio-civic Emphasis in the Teaching of Law on the Secondary-School Level," *School and Society*, LI (May 11, 1940), 616-19.  
Gives specific suggestions for making some study of law an integral part of social-studies instruction in high school.
120. WILSON, HOWARD E. "Consumer Education in the Schools," *Education*, LX (January, 1940), 283-90.  
Raises searching questions concerning the proper scope of consumer education in the schools.
121. WIRTH, LOUIS (editor). *Contemporary Social Problems*. Chicago: University of Chicago Press, 1940 (second edition). Pp. x+68.  
Analyzes and exemplifies the "resource unit" for teachers. Is useful to teachers in showing what social scientists can contribute in the way of content and bibliographical aids, in which many teacher-made "source units" are lamentably weak.
122. WOOD, HUGH B. "Social Studies: A Study Guide for Teachers." Curriculum Bulletin No. 1. Eugene, Oregon: Curriculum Laboratory, University of Oregon, 1939. Pp. 45 (mimeographed).  
Summarizes and quotes from some of the most important recent literature in the social studies. Will be of assistance to teachers who are helping to revise the course of study in their schools.

### GEOGRAPHY

EDITH P. PARKER

University of Chicago

123. BOSTICK, MARY L. "The Best World Map—the Globe," *School Science and Mathematics*, XL (April, 1940), 324-25.  
Shows how various map projections can be compared with a globe of the same scale.
124. BRANOM, FREDERICK K. "Some Problems Confronting the Teacher of Geography," *School Science and Mathematics*, XL (February, 1940), 119-27.  
Discusses some geographic problems and offers suggestions for solving them.

125. BROWNE, W. A. "A New Prospectus for Geography," *Journal of Geography*, XXXIX (January, 1940), 17-25.  
Discusses the growing demand for more geographic information and the use of such information in nongeographic fields.
126. CARTER, HARRIET I. "Our National Forests—a Social Problem," *Journal of Geography*, XXXIX (April, 1940), 151-56.  
Presents a study-guide for the junior and senior high schools. Includes an excellent bibliography.
127. COLLINS, A. W. "Pupil Comprehension of Place Location Data in High School United States History," *Journal of Geography*, XXXVIII (November, 1939), 325-29.  
Shows the need for geographic training.
128. COSTERISAN, G. W. "Helps in Teaching Principles of Geography," *Journal of Geography*, XXXIX (April, 1940), 161-64.  
Describes procedures helpful in giving pupils a geographical background.
129. CREWSON, WALTER S. "The Local Community as a Resource for Teaching High School Geography," *Journal of Geography*, XXXIX (March, 1940), 105-9.  
Describes how a visit to an industrial establishment may achieve some of the major aims of geography-teaching.
130. DIEHL, IVAN C. "A Problem Plan for Organizing a Teaching Unit in Geography," *Journal of Geography*, XXXIX (November, 1940), 323-25.  
Outlines a usable and practical plan for organizing geography material for teaching purposes.
131. *Education* (Geography Number), LX (December, 1939), 193-256.  
The entire issue is devoted to geographical articles. Those of particular interest to secondary-school teachers are: William J. Berry, "Problems in Training for Geography Teaching," pp. 240-43; Robert M. Brown, "Geography in a Teacher Training Institution," pp. 232-34; Elizabeth E. Gregory, "The Status of Geography in New England Teacher Training Institutions," pp. 235-39; Earl B. Shaw, "Educational Values in Travel," pp. 201-4; J. Russell Smith, "Geography, a Group of People in a Place," pp. 195-200; Carl Louis Stotz, "Geographical Aspects of Near Eastern Political Problems," pp. 205-8; Lloyd Trevor, "The Place of Geography in the British Educational System," pp. 224-28.
132. EISELEN, ELIZABETH. "The Technique of Exhibits," *Journal of Geography*, XXXIX (November, 1940), 320-22.  
An interesting study of the problems involved in preparing an effective exhibit.
133. FEASBY, H. G. "Geography—a Science," *School* (secondary edition), XXVIII (May, 1940), 778-81.  
Cites reasons for maintaining geography as a separate subject with specially trained teachers.



134. GLUCK, HAROLD. "Maps Practically for the Asking," *Journal of Geography*, XXXIX (January, 1940), 30-36.  
Tells how valuable material may be obtained at small cost.
135. KUSCH, MONICA. "Know Our World," *School Science and Mathematics*, XL (February, 1940), 152-55.  
Shows how maps can be used in studying current world-problems.
136. LYLE, HELEN. "Some Requisites of Good World Maps," *School Science and Mathematics*, XL (March, 1940), 270-72.  
Discusses the specific function of world maps and globes for general use.
137. MAPES, CARL H. "Pacific Northwest Industries—Regional Geography in the Seattle Public Schools," *Journal of Geography*, XXXIX (March, 1940), 117-21.  
Describes a pioneer course in regional geography at the secondary-school level.
138. MODLEY, RUDOLF. "Maps, Charts, Graphs, and Pictures as Aids in Economic Education," *Economic Education*, pp. 113-30. Eleventh Yearbook of the National Council for the Social Studies. Washington: National Council for the Social Studies (1201 Sixteenth Street, Northwest), 1940.  
Discusses ways of using visual materials and cites advantages and disadvantages of each.
139. MORRIS, J. W. "Geography in the High School," *School* (secondary edition), XXVIII (January, 1940), 431-35.  
Presents problems in ninth-grade social studies and offers some solutions to them.
140. RENNER, GEORGE T. "The Map as an Educational Instrument," *Social Education*, IV (November, 1940), 477-82.  
Discusses the difficulties and the weaknesses in the use of maps and suggests ways of correcting them.
141. WADDLE, THELMA. "In One Inch on the Map," *School Science and Mathematics*, XL (May, 1940), 401-2.  
Shows how only generalization rather than detail can be made from study of world-maps.

## SCIENCE

WILBUR L. BEAUCHAMP  
University of Chicago

142. ASHFORD, THEODORE A. "A Physical Science General Course for Grades XI and XII," *Journal of Chemical Education*, XVII (April, 1940), 157-59.  
Presents a list of the units used in the Four-Year College of the University of Chicago and evaluates the course.

143. CASTKA, JOSEPH F. "Modern Chemical Concepts and the High School Curriculum," *Journal of Chemical Education*, XVII (October, 1940), 487-92.  
Discusses the present state of our knowledge of chemistry, the concepts which should be presented to high-school pupils, and demonstration experiments which can be utilized.
144. DERRICK, J. O. "One Hundred High-School Chemistry Projects," *Journal of Chemical Education*, XVII (October, 1940), 492-94.  
Presents a bibliography of articles in periodicals describing projects suitable for the high school.
145. FERGUSON, WILLIAM C. "Instructional Problems of Generalized Science in the Senior High School," *Science Education*, XXIV (February, 1940), 72-75.  
Gives the results from a questionnaire relating to the problems of teaching encountered in generalized science courses and the results from a comparative study of scores made on tests by pupils in generalized courses and by pupils in special courses.
146. GOULD, A. H. "New Materials for the Teaching of Physics," *School Science and Mathematics*, XL (June, 1940), 530-35.  
Lists magazine articles, books, motion pictures, film directories, slides and film slides, commercial films, and noncommercial films.
147. HANCOCK, CYRIL H. "An Evaluation of Certain Popular Science Misconceptions," *Science Education*, XXIV (April, 1940), 208-13.  
Presents a list of a hundred misconceptions with a rating on their relative importance in affecting behavior.
148. JOHNSON, PHILIP G. "The Sciences Need the Social Studies," *School Science and Mathematics*, XL (November, 1940), 708-15.  
Shows how the sciences and the social studies can work co-operatively to achieve desired educational objectives.
149. JONES, W. E. "A Reading List for Biology," *School Science and Mathematics*, XL (October, 1940), 659-63.  
Presents a list of books found to be especially readable and interesting to high-school pupils.
150. LONG, EDWARD L. "Functional Science for Grade XI," *Curriculum Journal*, XI (May, 1940), 209-13.  
Sets forth the outline of a course designed for pupils who do not plan to go to college.
151. MCCOWEN, MAX C. "A Controlled Experiment in Visual Education in General Science," *Educational Screen*, XIX (April, 1940), 143-46, 172-73.  
Gives the results of an experiment comparing instruction using motion pictures with instruction given without visual aids. Includes study guides and tests.

152. PETTIT, DONALD D. "The Content of Junior High School Science," *School Science and Mathematics*, XL (October and November, 1940), 643-54, 763-77.  
Presents an analysis of textbooks to show frequency of topics and a list of basic concepts included in the majority of books studied.
153. POWERS, SAMUEL R. "On the Responsibilities of Teachers with Special Training in Science," *School Science and Mathematics*, XL (November, 1940), 738-48.  
Discusses the shortcomings of present-day science-teaching and suggests reforms to overcome them.
154. RELYEA, GLADYS M. "Out-of-School Science Activities of Junior High School Students," *Science Education*, XXIV (February, 1940), 84-87.  
Presents the results of a study to determine the kinds of out-of-school activities that have a science content.
155. SCOTT, W. FRANCIS. "A Study in Teaching Scientific Method and Attitude in the Junior High School," *Science Education*, XXIV (January, 1940), 30-35.  
Presents a series of projects used to develop scientific methods and attitudes.
156. STRUBLE, ALDEN H. "Experiments for Chemistry Clubs," *School Science and Mathematics*, XL (May, 1940), 418-26.  
Describes forty-two experiments of a spectacular nature.
157. WATSON, D. R. "A Comparison of the Growth of Survey Courses in Physical Science in High Schools and in Colleges," *Science Education*, XXIV (January, 1940), 14-20.  
Presents data on the number of fused physical-science courses in high schools in the different states.
158. WATSON, D. R. "Objectives of Survey Courses in Physical Science," *School Review*, XLVIII (November, 1940), 685-92.  
Gives the results of a study to determine the objectives on which teachers in colleges and high schools focus the work in survey courses in physical science.
159. WOLINE, R. W. "Science Projects," *Journal of Chemical Education*, XVII (August, 1940), 389-94.  
Describes a method of using science projects and reports and a list of more than two hundred projects which have been found to be helpful in teaching science.

#### MATHEMATICS

GEORGE E. HAWKINS

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160. BACON, H. M. "High School Mathematics in the University," *Mathematics Teacher*, XXXIII (January, 1940), 14-17.  
Discusses the mathematical needs of students in Stanford University and the methods used in meeting them.

161. BARNETT, I. A. "The Algebraic Identity—Its Place in a First Course in Algebra," *School Science and Mathematics*, XL (May, 1940), 427-33.  
Suggests that the study of algebra be introduced through the study of algebraic identities and illustrates methods of doing so.
162. BARNETT, I. A. "Reasoning Problems in Mathematics," *School Science and Mathematics*, XL (June, 1940), 548-56.  
Recommends the use of problems in permutations, combinations, and probability for creating interest and providing experience in reasoning in junior high school classes. The procedure is illustrated, and numerous exercises are suggested.
163. BELL, E. T. "Buddha's Advice to Students and Teachers of Mathematics," *Mathematics Teacher*, XXXIII (October, 1940), 252-61.  
A stimulating admonition to teachers of mathematics to train students to be critical and to challenge statements of speakers and writers.
164. CHAROSH, MANNIS. "Theory of Numbers in Secondary Mathematics," *School Science and Mathematics*, XL (June, 1940), 518-29.  
Shows how the teacher, in his work in the classroom and in constructing exercises in algebra and geometry, may use certain principles from the theory of numbers.
165. CHRISTOFFERSON, H. C. "Teaching Functional Relationships in Elementary Algebra," *School Science and Mathematics*, XXXIX (October, 1939), 611-17.  
Recommends that teachers experiment with functional thinking in their teaching and gives several illustrations of a procedure.
166. DRAKE, RICHARD M. "The Effect of Teaching the Vocabulary of Algebra," *Journal of Educational Research*, XXXIII (April, 1940), 601-10.  
The summary of a piece of research using the control-group method and showing that the study of vocabulary in algebra improves achievement in the subject.
167. DRESDEN, ARNOLD. "Mathematics and the Social Sciences," *Mathematics Teacher*, XXXII (December, 1939), 339-42.  
Points out significant illustrations of applications of the mathematical concepts of order, inverse functions, and existence theorems to the field of the social sciences.
168. FOSTER, LEBARON R. "Nine Out of Ten Like Consumer Credit Problems," *Mathematics Teacher*, XXXIII (February, 1940), 51-55.  
Urges the use of consumer-credit problems for the purpose of making mathematical principles meaningful and significant to pupils.
169. GEORGES, J. S. "Mathematical Principles in the Junior High School," *School Science and Mathematics*, XXXIX (November, 1939), 736-49.  
Considers the unique educational functions and the general educational functions of mathematics. Gives a brief exposition of several topics under each of the two headings.

170. GIANERA, WILLIAM C. "The Place of Mathematics in Secondary Schools," *Mathematics Teacher*, XXXII (December, 1939), 360-64.

Bases a request for a full four-year program in secondary-school mathematics on the value of this training as a mental discipline.

171. HEDRICK, E. R. "Functional Thinking," *School Science and Mathematics*, XL (April, 1940), 354-61.

Explains the meaning of the phrase "functional thinking" in a very elementary manner; gives numerous, simple illustrations; and discusses the significance of the idea in teaching all mathematics.

172. HENDERSON, KENNETH B. "The Lessons Non-Euclidean Geometry Can Teach," *Mathematics Teacher*, XXXIII (February, 1940), 73-79.

Illustrates how certain definitions and assumptions regarding parallel lines made in non-Euclidean geometries may serve to emphasize the role of definitions and assumptions in deductive reasoning.

173. JOHNSON, J. T. "Principles of Adjustment in Mathematics," *Journal of Educational Research*, XXXIII (December, 1939), 253-57.

Shows how the principle of equal additions in the process of subtraction conforms with several other mathematical procedures in situations in which adjustments are necessary.

174. JOSEPH, MARGARET. "The Factor of Interest in the Teaching of Mathematics," *School Science and Mathematics*, XL (March, 1940), 201-7.

Presents some evidence on the relation between success in mathematics and rank in class and between success in mathematics and reading ability. Suggestions are made for developing interest in mathematics.

175. KRATHWOHL, WILLIAM C. "Using and Preparing a Mathematics Exhibit," *School Science and Mathematics*, XXXIX (November, 1939), 702-6.

Makes a number of helpful suggestions regarding planning, preparing, and displaying an exhibit of pupils' work.

176. LLOYD, DANIEL B. "The Teaching of 'Flexible' Geometry," *Mathematics Teacher*, XXXII (November, 1939), 321-23.

Suggests motivating the subject and increasing the practical value of the course in plane geometry through some study of flexible instruments, such as the pantograph.

177. *Mathematics in General Education*. A Report of the Committee on the Function of Mathematics in General Education for the Commission on Secondary School Curriculum. Progressive Education Association Publications. New York: D. Appleton-Century Co., Inc., 1940. Pp. xiv+424.

A national committee report which, if put into practice, would have far-reaching effects in the teaching of mathematics. Suggests a general procedure in curriculum construction distinctly different from the traditional method and from the plans envisaged in other reports of national committees.

178. MENDER, KARL. "On Necessary and on Sufficient Conditions in Elementary Mathematics," *School Science and Mathematics*, XXXIX (October, 1939), 631-42.  
Distinguishes between necessary and sufficient conditions as applied to several topics in algebra, including the solving of equations.
179. MOLINA, EDWARD C. "Mathematics in the Telephone Industry," *School Science and Mathematics*, XL (May, 1940), 403-10.  
Shows how mathematics, and in particular the theory of probability, is applied in solving problems arising in the telephone industry.
180. OLDS, EDWIN G. "Questions in Educating Mathematics Teachers for the Secondary School," *National Mathematics Magazine*, XIV (February, 1940), 271-77.  
Suggests a program of studies for prospective teachers of mathematics in secondary schools.
181. *The Place of Mathematics in Secondary Education*. The Final Report of the Joint Commission of the Mathematical Association of America and the National Council of Teachers of Mathematics. Fifteenth Yearbook of the National Council of Teachers of Mathematics. New York: Teachers College, Columbia University, 1940. Pp. xvi+254.  
Discusses the objectives of education, considers the place of mathematics in education, suggests two curriculum plans, and covers other related topics.
182. SAYWARD, RUTH KNIGHT. "Mathematics That Breaks with Tradition," *High School Journal*, XXII (November, 1939), 272-74.  
Describes briefly a course based on the mathematical needs of women in actual life outside the school.
183. SCHORLING, RALEIGH. "The Place of Mathematics in General Education," *School Science and Mathematics*, XL (January, 1940), 14-26.  
Discusses the purposes of a curriculum in mathematics for pupils who need no technical training in the subject.
184. SMITH, ROLLAND R. "Three Major Difficulties in the Learning of Demonstrative Geometry," *Mathematics Teacher*, XXXIII (March and April, 1940), 99-134, 150-78.  
Part I gives an analysis of pupils' learning difficulties in the first part of the course in demonstrative geometry. Part II describes the methods devised to help pupils with those types of errors and difficulties identified in Part I.
185. THIELE, C. L., and SAUBLE, IRENE. "Teachers First in Building a Course of Study," *Nation's Schools*, XXVI (July, 1940), 49-50.  
As the first step in making a new course of study, Detroit schools conducted a questionnaire study for ascertaining the points of view held by mathematics teachers.

186. WHITMER, EDITH F. "Youth Speaks for Mathematics," *School Science and Mathematics*, XL (January, 1940), 41-46.

One hundred and five boys and girls studying mathematics in Winchester (Illinois) Community High School give the occasions on which they have been conscious of using mathematics over a period of a hundred days.

### FOREIGN LANGUAGE

FRANCIS F. POWERS

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187. BELL, CLAIR HAYDEN. "Accent Marking in Text Vocabularies," *Modern Language Journal*, XXIV (March, 1940), 443-45.

Advocates universal acceptance of the new symbols for primary and secondary syllable stress as adopted by the Association Phonétique Internationale.

188. GOODLOE, JANE F., and FORSYTH, CHARLOTTE E. "Suggestions to Students of German To Be Transmitted through Their Teachers," *Modern Language Journal*, XXIV (April, 1940), 533-35.

Contains specific suggestions for the student of German on the techniques of reading, question and answer, and composition. Profitable for the teacher of German as well.

189. HELLER, JOHN L. "An English-French-Latin Word List for Familiar Concepts," *Classical Journal*, XXXV (January and March, 1940), 209-29, 326-47.

Presents a list of English-French-Latin concept equivalents for the teacher of Latin to help pupils discover that Latin can be used to express words and phrases familiar to modern American ears.

190. IRVING, LAURENCE. "Language Preparation for Science Students," *School and Society*, LI (February 10, 1940), 189-90.

Advice for prospective college students in science who would avoid foreign-language instruction in high school. Also helpful for high-school faculty advisers.

191. MARONPOT, RAYMOND P. "Our Experience with the Reading Approach," *Modern Language Journal*, XXIV (April, 1940), 494-97.

Presents a two-year course outline for a typical high-school Spanish class using the new-type course which advocates that reading be taught by reading.

192. MUSGRAVE, WILFORD PAUL. "Teaching Undergraduates," *Modern Language Journal*, XXIV (April, 1940), 410-12.

Emphasizes the importance of better preparation of teachers in order that they will be able to increase the pupils' interest in the language and to reveal to him a "potent, practical objective."



193. ORTMANN, ARNOLD A. "Recent Trends in Modern Language Teaching," *Baltimore Bulletin of Education*, XVII (March-April, 1940), 107-9.  
A brief description of the fourfold classification of aims—reading, hearing, speaking, and writing—which have been adopted in recent years and which represent the greatest change in modern foreign language methods.
194. PEACOCK, VERA L. "A Differentiated Reading Program for French," *School Review*, XLVIII (September, 1940), 531-39.  
Contains excellent material for a differentiated reading program in French which may be used to stimulate pupil interest.
195. STOCK, H. "Objectives and Methods in the Teaching of High School French," *High Points in the Work of the High Schools of New York City*, XXII (January, 1940), 48-72; (February, 1940), 44-58; (March, 1940), 49-60.  
Presents a detailed description and evaluation of the reading method in teaching high-school French as compared with the direct and the grammar methods.
196. WALDMAN, MARK. "The Selection of Heads of Modern Language Departments, Appointments of Modern Language Teachers and Their Supervision," *Modern Language Journal*, XXIV (April, 1940), 510-25.  
Sets forth the author's interpretation of the desirable qualifications of heads of foreign-language departments and techniques both for testing prospective teachers and their supervision and for the art of teaching.
197. WITTMANN, VERA E., and KAULFERS, WALTER V. "Continuance in College of High-School Foreign Language," *School Review*, XLVIII (October, 1940), 606-11.  
Presents the results of an attempt, based on data from Stanford University, to measure the extent to which high-school courses in foreign language are really preparatory and not merely a "ticket of admission" to the university.
198. WRIGHT, LEAVITT O. "The Spanish Word Most Mispronounced in the United States," *Hispania*, XXIII (February, 1940), 49-54.  
Emphasizes the importance of early exercise in pronunciation for the student of Spanish if the language is to be functional. Points out the fallacy of attempting to give the pupil English sound-equivalents for Spanish vowels.

# Educational Writings

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## REVIEWS AND BOOK NOTES

**STIMULATING PUPIL GROWTH THROUGH READING.**—During the past five years a number of conferences dealing with the problems of teaching reading have been held at educational institutions throughout the country. For the most part these conferences have been concerned with improvement of the reading ability of pupils. A report<sup>1</sup> of a conference held at the University of Chicago in the summer of 1940 introduces a change in the approach to problems of teaching reading. Without neglecting problems relating to the improvement of the reading ability of pupils, it emphasizes especially the types of pupil development which can be stimulated through reading.

Three significant tendencies, which indicate the theme of the report, are stressed in the first chapter:

First, [the teaching of reading is] at the threshold of an era in which increased emphasis will be given to the types of changes or growth in the individual that should be attained through reading; second, . . . a broader understanding has recently developed of the factors involved in a clear grasp of the meaning of a passage, which promises to modify current procedures in teaching reading and to enrich greatly the reader's understanding of what is read; and, third, . . . the guidance provided by the teacher should continue until the reader has reacted intelligently to what he has read, has applied it wisely, or has integrated the ideas gained through reading and previous experience into definite thought and action patterns [p. 7].

This chapter is followed by eight sections dealing with "Reading and Pupil Development"; "Growth in the Interpretation of Meaning"; "Development of Ability To Read for Different Purposes"; "Development of Ability To Understand What Is Read in Specific Curriculum Fields"; "Growth in Interests, Appreciations, and Tastes in Reading"; "Development of Basic Reading Attitudes, Habits, and Skills"; "Evaluating Growth in and through Reading"; and "Reading and the Library." The final section contains a summary of the report. The sections are introduced by chapters which set forth the issues to be considered. Additional chapters present discussions of those issues at various grade levels and in various curriculum fields.

This approach to problems of teaching reading presents a broader conception than ordinarily prevails of the place of reading in pupil growth and development.

<sup>1</sup> *Reading and Pupil Development*. Proceedings of the Conference on Reading Held at the University of Chicago, Vol. II. Compiled and edited by William S. Gray. Supplementary Educational Monographs, No. 51. Chicago: Department of Education, University of Chicago, 1940. Pp. xii+356. \$2.00.

It considers reading a form of experience that enriches the life of the individual, modifies his personality, and contributes to an understanding of his place in society. It centers attention on the promotion of capacity for free, self-reliant interpretation of what is read as contrasted with the mere acceptance of the interpretation and the generalizations of others. It indicates more definitely the relation of reading to other forms of learning in promoting desirable types of growth. It places emphasis on the opportunities for growth through reading in all curriculum fields. In short, it stresses the fact that progress in reading is closely related to the total growth of the individual.

This broad approach to the place of reading in the growth and the development of pupils places on all teachers increased responsibility for guiding the reading activities of pupils. From the beginning, reading must contribute to growth in understanding, insights, interests, attitudes, and desirable patterns of behavior. In the middle grades much attention must be given also to increasing efficiency in reading and especially to training in identifying meaning through a study of context. In the high school and college it is essential that the reader's interests, needs, and capacities be determined and that materials and activities be adapted to them. At these levels there is need also for a carefully planned program of basic instruction in reading and for appropriate guidance in each content field.

The broad conception of the ends to be attained through reading, which is emphasized throughout the report, presents a challenge to teachers at all grade levels to utilize more effectively the potentialities of reading as aids to teaching. The practical suggestions for accomplishing these ends point the way to teaching procedures. Teachers of content subjects, as well as teachers of reading, will find the report an excellent source for frequent reference.

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THE COUNSELING OF SECONDARY-SCHOOL PUPILS.—The authors of earlier books on guidance addressed their writings to a large audience with the hope that their efforts would bring forth action in almost any quarter. More recently contributors in this field have assumed the rather general acceptance of the principles of guidance and have more or less confined themselves to treatments of the techniques and practices of the guidance specialists.

The assumption that all school administrators and teachers understand the bases for guidance is apparently questioned by one leader in guidance who has recently set forth, for the special benefit of these workers, the circumstances showing the need for guidance and, in addition, has offered helpful suggestions for providing up-to-date programs of guidance.<sup>1</sup>

<sup>1</sup> Ruth Strang, *Pupil Personnel and Guidance*. New York: Macmillan Co., 1940. Pp. xiv+356. \$2.00.

Strang's book opens with a chapter on "Vision, Reality, and the Task," a wholesome overview of the end products of guidance activities which should be carried on by modern schools. Characteristic of the attitude of mind which the author wishes to engender in this type of introduction is the statement that in "The Educator's Vision" "there was a constructive emphasis on development, rather than a remedial emphasis on problem cases" (p. 2). Throughout, the presentation is distinctly on the positive side, and it leaves the reader with a most healthy approach to the problems which the educator faces and which are next presented by the author in the chapter "All the Children: Their Characteristics and Needs."

A discussion of the school environment conducive to proper child development is followed by examples of the current programs of guidance in selected schools and school systems. In addition, specific references to programs actually being carried on by schools are presented at psychologically opportune times throughout the book, just at the places where a generalist might be tempted to feel that fine theories are being advanced which probably would be difficult to put into practice.

In the chapter "A Developing Program of Personnel Work," the administrator is offered some very practical and sound advice about instituting and developing a program of guidance. The following chapters treat the contributions which can be made to the program by various school functionaries—the superintendent, the principal, the classroom teacher, the home-room teacher, and the specialist. The final chapter deals with the selection and the education of teachers as these problems are related to the ultimate effective guidance of pupils.

Throughout the reading of the book, one must keep in mind the intent of the author to provide material for the generalist rather than the guidance specialist, lest the author at times be accused of being trite. Much of the material is not new to guidance workers, but its repetition should not exercise even these specialists. Sound facts and advice need to be repeated again and again before they will effect desirable changes in school practice. Educators not acquainted with guidance literature will benefit greatly by reading this volume, and the specialist will appreciate having a recent and thorough presentation of guidance material for students or for others needing a good introduction to this field.

Another volume on guidance<sup>1</sup> brings together many ideas about counseling with the specific attempt to aid, "first, students enrolled in the introductory guidance course in colleges of education; second, high-school counselors, advisers, and teachers who are interested in student personnel work and especially in counseling" (p. v).

These authors attempt to indicate the broad scope of personnel work in secondary schools, as well as the more important phases of educational and voca-

<sup>1</sup> E. G. Williamson and M. E. Hahn, *Introduction to High School Counseling*. New York: McGraw-Hill Book Co., Inc., 1940. Pp. x+314. \$3.00.

tional guidance. Their treatment includes the functions of the special counselor and the teacher-counselor, and they wish to direct attention also to the personnel responsibilities of administrative functionaries.

In order to reach these goals, the authors present their material in twelve chapters. In chapter i, under the title "The Development of Student Personnel Work," six antecedents of present-day personnel concepts are discussed. The six antecedents to which the authors confine their discussion are (1) the measurement movement, (2) vocational guidance, (3) educational guidance, (4) the clinical method of guidance, (5) individualization of mass education, and (6) scholastic motivation. This information provides a valuable background for personnel workers and serves as a good introduction to the volume.

The next chapter presents the pupils' problems that indicate the need for guidance programs. The evidence of restraint in limiting the discussion of such problems to a relatively few pages is appreciated by the reader at a time when so much is being written about this subject, which is rather generally understood. The third chapter completes what might be thought of as general introductory material by indicating "The Scope of Personnel Work."

Most of the remaining chapters of the book deal with procedures for carrying on acceptable guidance practices in schools. Consideration is given to such important topics as group work with pupils, pupil-personnel work as related to the curriculum, personnel work in the classroom, collecting information for counseling, and what is actually involved in counseling pupils. The problems of instituting and developing programs of personnel work and of assisting out-of-school youth are treated in the final chapters.

This publication fulfils exceedingly well the task which the authors set for themselves. It is a textbook for beginners. The large number of references at the conclusion of each chapter offers directions for the reader if his interest dictates a more detailed study of the various aspects of personnel work. Throughout the book the authors present, in well-organized summaries, the findings of investigators and the thinking of leaders in the field of guidance. This material is interpreted in terms of the specific jobs to be done. The reviewer hopes that a sufficiently large number of prospective teachers and teachers who are not yet fully acquainted with guidance procedures will read this book, to the end that secondary-school pupils of the future will reap the benefit of better guidance practices.

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STATUS AND FUNCTIONS OF DEANS OF WOMEN AND DEANS OF GIRLS.—During the past decade guidance and student personnel work have become an integral part of educational policy. Functions and responsibilities of deans, counselors, advisers, and personnel workers have overlapped and have been only vaguely defined. Confusion has resulted, and in educational groups erroneous statements concerning the duties of various personnel officers have been prevalent. A cur-

rent survey<sup>1</sup> supplies answers, based on facts, to the following cogent questions:

Are the positions [of deans] disappearing? Is the work chiefly disciplinary in character? Have the functions of deans been modified, curtailed, or expanded during the past ten years? During the same period have their salaries suffered more than those of other members of the same institution? What is their relation to other personnel officers? Are they adding to their staffs or being replaced or rivaled by another type of personnel worker? [Pp. 7-8.]

The facts for the survey were gathered from questionnaires sent to colleges, universities, teachers' colleges, normal schools, and high schools which had provided similar data in 1926. Additional colleges listed in the *Educational Directory* for 1936 also contributed to the study. In order that the data might be more comprehensive, questionnaires were also sent to selected high schools.

Information was compiled on the trend in (1) the number of deans, (2) their academic preparation, (3) organization and staff, (4) teaching load, (5) salary, and (6) student personnel functions.

Returns show that the position of dean of women appears to be increasing in both numbers and importance. In a very few institutions, because of reorganization, the position of dean has been eliminated, but in the vast majority of institutions the tendency has been to increase the dean's staff and to create new positions. The growth in the number of positions in the high schools has not been so rapid as in the institutions of higher learning. From the data presented the conclusion is reached that there will be an increasing demand for well-equipped young women to fill assistant positions, such as social directors, placement officers, heads of residences, and advisers of special groups.

The most marked trends at all levels of education in this ten-year period were better academic preparation and increased emphasis on graduate work, slightly higher salaries, and a lighter teaching load.

Four functions—educational guidance, vocational guidance, social guidance, and work with groups—were reported as important. The functions performed most frequently by deans are counseling, work with student organizations, housing, record-keeping, executive work, and committee work. There was a tendency for vocational guidance and full-time placement to be performed by individuals outside the dean's office.

This descriptive study and summary of opinions concerning the position of dean will be informative and interesting to all administrators, counselors in active service, and teachers in schools of education.

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<sup>1</sup> Sarah M. Sturtevant, Ruth Strang, and Margaret McKim, *Trends in Student Personnel Work: As Represented in the Positions of Dean of Women and Dean of Girls in Colleges and Universities, Normal Schools, Teachers Colleges, and High Schools*. Teachers College Contributions to Education, No. 787. New York: Teachers College, Columbia University, 1940. Pp. 110. \$1.85.

**MATERIALS FOR CORRELATING SHORTHAND AND TYPEWRITING.**—Teachers who have been correlating the subjects of shorthand and typewriting by having pupils learn typewriting from shorthand notes have, for some seven or eight years, been convinced of the advantages to the learner of such a correlation, even though the materials that they used did not give them exact information with regard to the opportunities provided for learning the various important factors of transcription.

Teachers who are interested in correlating the two subjects can, if they use *Correlated Dictation and Transcription*,<sup>1</sup> proceed with the assurance that they are affording the learners systematic opportunities to develop all the abilities required in the techniques of shorthand, typewriting, and transcription at one and the same time.

The vocabulary of the book consists of the three thousand most used words, the names of states, names of cities with populations of one hundred thousand and over, common surnames, and common Christian names. The vocabulary range varies from the five hundred most used words in Part I to the three thousand most used words in Part VI. The phrase list contains more than nineteen hundred shorthand phrases.

The rules for the use of good English and correct punctuation are stated in simple, nontechnical terms, and the statement of each rule is followed by examples. Application of these rules is made in the practice materials for dictation and typewriting.

The practice exercises are written in shorthand at the end of each unit. These shorthand exercises may be used for reading practice, for developing a high degree of skill in transcribing from shorthand plates, or for checking the accuracy of shorthand outlines.

The shorthand plates may be used to compare speed and accuracy in transcribing shorthand and in typewriting the same matter from print. For example, if a learner can typewrite an exercise from print at the rate of forty words a minute, he should compare this rate with his rate for transcribing the corresponding shorthand plate material. He should continue to practice transcribing from the shorthand plate until his transcribing record approaches his typewriting record. He should then practice transcribing the same exercise from his own notes until this record approaches that made from the corresponding shorthand plate. Both in the shorthand plate and in the typewriting practice, the strokes in the words in the inside address are counted in order that the same procedure for comparable testing may be used in setting up letters.

The references, the rules, and the style studies in the text constitute a manual giving correct information that the stenographer will need in daily correspondence. Immediately after each reference, rule, or style study, dictation and typewriting materials involving the application of this information are consistently presented.

<sup>1</sup> Hamden L. Forkner, Agnes E. Osborne, and James E. O'Brien, *Correlated Dictation and Transcription* (Gregg edition). Boston: D. C. Heath & Co., 1940. Pp. x+546. \$1.80.



The articles and letters are written at the intellectual level of the high-school pupil and are concerned with topics of interest and value to him as a learner and as a worker. They range in length from approximately fifty to three hundred words. Strokes, actual words, and standard words are given for each piece of material.

Teachers who realize that the correct order for learning principles of any system of shorthand is not yet known and that at least 95 per cent of the vocabulary used on the job is composed of high-frequency words, which may or may not constitute all the principles of a particular shorthand system, will use this book to the advantage and pleasure of their classes.

Ten years ago it was not possible to make such statements. It is only during the past decade that discussion of the correlation of shorthand and typewriting has led to consideration of the component elements of transcription and to consideration of the relative degree of difficulty of those various elements. A re-examination of the literature in educational psychology for the purpose of ascertaining the common elements in the techniques of shorthand, typewriting, and transcription revealed rather plainly that the use of a large learning unit makes possible and desirable the correlation of the three subjects from the beginning of the learning process.

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A COURSE IN SAFETY EDUCATION.—Accident statistics from year to year provide a continuing stimulus to systematic efforts to reduce the hazards of present-day modes of living for both children and adults. Accidental fatalities number many thousands annually, being exceeded only by the ravages of heart disease, cancer, and pneumonia in the list of specific causes of death. Accidental injuries resulting in permanent disability are counted by the hundreds of thousands, while those causing temporary disabilities are reported in millions of cases. The costs of accidents are estimated at more than three billion dollars. Industrial and welfare organizations, as well as governmental agencies, have been striving for years to establish effective measures for reducing the toll of accidents to persons and property, and a great deal of progress has resulted from the research and experimentation sponsored by these groups. More recently the schools have accepted their responsible role in the promotion of safety by eliminating hazards from buildings and playgrounds, improving transportation facilities and regulations, sponsoring traffic patrols, and instructing the children regarding the common causes of accidents and the precautions which should be taken to avoid them. Contributing to the developing literature required for effective instruction in accident prevention is a new guidebook<sup>1</sup> to safety designed for use as a textbook in high-school classes.

The book covers all phases of safety education. There are two chapters deal-

<sup>1</sup> Sidney J. Williams and W. W. Charters, *Safety*. New York: Macmillan Co., 1940. Pp. viii+452. \$1.60.

ing with problems of safety in the school and two chapters on guarding against home accidents. Other chapters discuss safety in recreation, on the highways and in automobiles, on the farm, and in various industrial occupations. The final chapter describes the services of numerous agencies of the national, state, and local governments and the activities of many private agencies endeavoring to provide increased protection for the lives and property of the people in all parts of the nation. The need for co-operation with these agencies on the part of individuals is emphasized.

At appropriate points in the discussion of problems of safety, the book introduces specific directions about what to do in such emergencies as panics, fires, electric shock, bleeding wounds, or sunstroke. Frequent passages are devoted to the listing of rules of safety to be observed in situations in which accidents may otherwise occur. A noteworthy feature of the book is the consistent effort to explain the nature and the causes of accidents by reference to scientific laws. It is assumed that the pupil who understands the scientific principles pertaining to fire, for example, is likely to form the habit of trying to eliminate fire hazards and will probably know what to do when a fire breaks out. A well-chosen list of references is provided for each chapter, and there are study helps in the form of tests, research problems, and suggested activities. Photographs, diagrams, and graphs illustrate good and bad practices from the point of view of accident prevention.

Some of the graphs and charts are presented without proper captions or legends, and it may be questioned that the true-false test at the end of several of the chapters is of sufficient value to warrant the use of erroneous statements that might cause serious accidents if improperly interpreted by pupils, for example, "It is safe to use kerosene to start a furnace fire" (p. 99). The scientific and statistical data presented in the book are appropriate and informative for pupils of high-school grade. The style is simple enough that pupils in junior high school grades can use this textbook without difficulty.

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MODERN ECONOMIC THOUGHT WRITTEN IN HIGH-SCHOOL LANGUAGE.—An excellent treatment of economic problems<sup>1</sup> for the eleventh- or twelfth-grade level is presented by James F. Corbett and Minna Colvin, both of the economics department of the New Utrecht High School, Brooklyn, New York. It is good to find a book on economics written by persons actively engaged in high-school work, for the explanations, examples, and illustrations are of a kind that are understood by teen-age pupils.

In the first 45 pages the rise of capitalism is traced. The next 130 pages dis-

<sup>1</sup> James F. Corbett and Minna Colvin, *Modern Economics*. New York: Macmillan Co., 1940 (revised). Pp. x+592. \$1.80.

cuss the advantages and the shortcomings of the profit system. After a well-organized description of the working of markets, the corporate form of enterprise, speculation, etc., come two units entitled "Profits and Costs" and "Business Control of Profits and Prices," which are the most brilliant sections of the book. Here the authors have succeeded in presenting the problems of increasing costs and proportionality, of decreasing costs and industrial price policies in such a way that pupils can understand some of the economic and political implications of administered prices. Few high-school textbooks contain statements of these ideas.

Approximately 140 pages are devoted to government control of prices, our credit economy, government and banking, business cycles, and international prices. The relation of capital accumulation and the swing of the business cycle is touched on, and the chapter on international trade provides a more realistic treatment of the subject than most high-school textbooks offer.

About 142 pages are given to discussions of consumers, labor, property-owners, and taxation. The material is good, but in high-school courses this phase of the study of economics could be expanded at the expense of some of the other units dealing with price theory.

The concluding section of the book, thirty-five pages, discusses communism, socialism, state planning, fascism, economic planning, and democracy, and also assumes to outline a program for America. This program is organized under the following topics: unequal distribution of wealth, labor, the farmer, the consumer, overcompetition and monopoly, public utilities, money and banking, international trade, public finance, and conservation. This section is introduced with a statement that, since our democratic traditions provide for honest differences of opinion, the pupil is "encouraged to reject, modify, or supplement any of the suggestions." Some of the proposals here listed are being debated sharply at the present time, and it is not certain that they can be advocated in a textbook for public-school use.

The study aids for each unit consist of a list of key words, a set of fact questions, a list of discussion questions, and a number of references. The references have descriptive, bibliographic notes and constitute a comprehensive reading list for a teacher of modern economics, but they are, for the most part, too difficult for high-school pupils. It should be remembered, however, that little material is available at the high-school level. Graphs, charts, numerous full-page photographic illustrations, a tinted paper, and large type—all add to the attractiveness of the publication. The authors have produced a textbook which is abreast of the times.

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## CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY  
AND PRACTICE

- BOND, ELDEN A. *Tenth-Grade Abilities and Achievements*. Teachers College Contributions to Education, No. 813. New York: Teachers College, Columbia University, 1940. Pp. vi+68. \$1.60.
- Economic Education*. Edited by Harold F. Clark. Eleventh Yearbook of the National Council for the Social Studies. Washington: National Council for the Social Studies, 1940. Pp. vi+166. \$2.00 (paper), \$2.30 (cloth).
- GOSSARD, ARTHUR PAUL. *Superior and Backward Children in Public Schools*. Chicago: University of Chicago Press, 1940. Pp. vi+172. \$2.00.
- HIGBIE, EDGAR C. *A First Course in the Study of Education: A Humanistic Approach*. Chicago: Benj. H. Sanborn & Co., 1940. Pp. xvi+392. \$2.40.
- JUSTMAN, JOSEPH. *Theories of Secondary Education in the United States*. Teachers College Contributions to Education, No. 814. New York: Teachers College, Columbia University, 1940. Pp. viii+482. \$3.00.
- Review of Education in Australia, 1939*. Edited by K. S. Cunningham and J. J. Pratt. Australian Council for Educational Research. Melbourne: Melbourne University Press, 1940. Pp. 320.
- STRACHAN, J. E. *New Zealand Observer: A Schoolmaster Looks at America*. New York: Columbia University Press, 1940. Pp. viii+128. \$1.50.
- WAPLES, DOUGLAS; BERELSON, BERNARD; and BRADSHAW, FRANKLYN R. *What Reading Does to People: A Summary of Evidence on the Social Effects of Reading and a Statement of Problems for Research*. Chicago: University of Chicago Press, 1940. Pp. xii+222. \$2.00.
- ZNANIECKI, FLORIAN. *The Social Role of the Man of Knowledge*. Columbia University Lectures, Julius Beer Foundation. New York: Columbia University Press, 1940. Pp. 212. \$2.50.

## BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

- BEAUCHAMP, WILBUR L., MAYFIELD, JOHN C., and WEST, JOE YOUNG. *A Study-Book for "Everyday Problems in Science."* Chicago: Scott, Foresman & Co., 1940. Pp. vi+346. \$0.84.
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